

## Does Contract Disclosure Matter?

by

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Disclosure has long been the preferred regulatory approach to prevent one-sided standard-form contract terms, but its efficacy is unclear. For disclosure to be effective, it must increase readership of contracts and, conditional on reading, affect decisions. I use clickstream data on software shoppers to test these two conditions in the online context. I find that the prominence of disclosure of a software license agreement has little effect on readership. Moreover, those who read the license are equally likely to purchase the product regardless of its one-sidedness. Mandatory online disclosure regimes thus seem unlikely to impose competitive pressure on sellers. (JEL: K12)

### *1 Introduction*

The majority of consumer transactions are governed by standard-form contracts. For instance, computers are sold with warranties, software is usually bundled with license agreements that restrict use, and credit cards are offered with contracts spelling out late-payment charges and dispute resolution clauses. On the Internet, such contracts are often presented as browsewraps, which are hyperlinks at the bottom of the page, and sometimes as clickwraps, which request assent via an “I agree” button.

The use of boilerplate enables the mass marketing of goods and services by allowing sellers to offer one-size-fits-all agreements to consumers without having to negotiate terms individually. But the use of standardized agreements also has its

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problems.<sup>1</sup> Most of these stem from the fact that consumers rarely read fine print. Indeed, Bakos, Marotta-Wurgler, and Trossen (2011) find that approximately 0.01% of Internet users read standard terms. If consumers paid close attention to standard terms and shopped around for them, holding the product constant, then market forces would lead sellers to offer terms that appeal to consumers. But when consumers do not read contract terms and therefore cannot factor them into their purchase decisions, sellers will reduce their costs and risks by offering more one-sided terms such as minimal warranties or severe restrictions on use. These problems and potential solutions have been identified by Beales, Craswell, and Salop (1981a), Salop (1976), and Meyerson (1990), among others. The result is the standard market failure that results from imperfect information.

Regulators have long preferred increased disclosure as the policy instrument in these circumstances. The Securities and Exchange Commission (SEC) administers a number of disclosure regimes to protect investors and facilitate the functioning of securities markets. The 1968 Truth in Lending Act was created to increase consumer protection in credit transactions by mandating disclosure of key lending terms. The 1975 Magnuson–Moss Warranty Act requires standardized language and disclosures for warranties. Many provisions of the 2009 Credit CARD Act rely on plain-sight, plain-language disclosures to increase transparency and help credit-card users make more-informed choices. Most recently, the American Law Institute (ALI) approved the *Principles of the Law of Software Contracts* with the goal of encouraging courts and legislatures to adopt rules to harmonize the law of software contracts, in particular the end-user license agreements (EULAs) that typically govern the use of software. The drafters of the *Principles* opt for regulation of disclosure rather than regulation of terms.

Remarkably, given the breadth of disclosure regulation, legal academia and practitioners know very little about the efficacy of disclosure regimes. Does increased disclosure really matter? Or is it merely a theoretically satisfying and uncontroversial way of addressing the potential for one-sided terms? More precisely, do enough consumers actually (1) read standard-form contracts when they are more prominently disclosed and (2) modify their purchase behavior based on what they read? For any disclosure regime to be effective, both of these conditions must be satisfied, yet there is not much evidence to support either of them. Only empirical study can answer these key questions.

This article presents the results of the first large-sample study of whether increased disclosure results in increased readership of contract terms and whether onerous terms lead those that read to shop elsewhere. I use clickstream data on the visits of 47,399 households to a set of online software retailers over a period of one month. I examine whether potential buyers of software are more likely to voluntarily access EULAs when they are made more accessible, as measured by the number of mouse

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<sup>1</sup> Slawson (1971) and Rakoff (1983) have argued that sellers are prone to include unfair terms in standard-form contracts because consumers will not read terms and courts will treat fine print as valid contracts.

clicks required to find them. It is worth noting that while my specific empirical laboratory involves e-commerce, the questions that I examine are fundamental to all disclosure regimes.

The first main finding is that increasing contract accessibility does *not* result in a meaningful increase in readership. Increasing contract accessibility by providing it one mouse click closer to the shopper increases contract readership on the order of 0.1 percentage point. In other words, it adds only one additional reader per thousand shoppers. Even *mandating* assent does not help much. When terms are presented in a clickwrap that requires consumers to click “I agree” next to the terms, readership, conservatively defined as those that access the EULA page for at least one second, remains less than one in two hundred.

The second main finding is that those (few) shoppers who actually read the contract do *not* respond to what they see there. Thus the second necessary condition for market forces to keep sellers in check also fails to hold. Specifically, after measuring the relative one-sidedness of each EULA accessed in my sample, I find that reader shoppers are equally likely to purchase a product regardless of how pro-seller the contract is.<sup>2</sup> Either people do not spend enough time reading the contract, they do not understand the terms well enough to incorporate them in their purchase decision, or both. Given that shopping for terms is so cheap online, the findings suggest that what is costly is not accessing the contract but rather reading it.

An important question now being considered by policymakers, academics, and consumer advocates is whether increased or mandatory disclosure rules would help increase readership of software and other Internet contracts to a degree sufficient to discipline sellers. The immediate policy implication of my results is that the ALI’s recommendation to mandate increased disclosure online will require costly changes for sellers, yet on its own will likely have no detectable effect on consumer behavior. Instead, these regulators should perhaps focus on solutions that increase the role of reputation and litigation as mechanisms to curb seller abuse, such as facilitating contract rating systems and eliminating class-action waivers. Regulators might also want to examine increased disclosure of select terms such as those communicated through labels.

It is always a question whether the results of an empirical study in one setting generalize to other settings. In that regard, it is worth noting that online comparison shopping is easy and nearly costless. Therefore, given the results, it is not unreasonable to imagine that they might also apply to markets with much greater search frictions. Without further studies in other markets, we cannot be sure. But at a minimum, the results suggest that future regulators should avoid the tempting assumption that simply disclosing contract terms will unleash powerful market forces that will invariably whip the terms into economic efficiency.

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<sup>2</sup> Relative buyer-friendliness is determined using a methodology developed in Marotta-Wurgler (2007) that measures the bias of a variety of terms from standard-form contracts relative to default rules.

Section 2 provides an overview of the literature and of disclosure regulations and proposals. Section 3 describes the methodology. Sections 4 and 5 describe my main results. The conclusion discusses the results and policy implications.

## 2 Disclosure as a Mechanism to Prevent Market Failure

### 2.1 An Overview of Disclosure Regulation

Disclosure regimes have been adopted in a wide range of consumer contexts. The Securities Act of 1933, the Securities Exchange Act of 1934, the Investment Company Act of 1940, and the Sarbanes–Oxley Act were enacted to ensure that investors are provided with pertinent financial information about the securities being offered. In consumer credit markets, the Truth in Lending Act requires mandatory and standardized disclosure of terms and cost of the loans. The Truth in Savings Act mandates clear and uniform disclosure of interest rates and fees related to deposit accounts to encourage competition and better decisionmaking. The Magnuson–Moss Warranty Act requires sellers of consumer products to write warranties in a standardized manner using clear language. The Nutritional Labeling and Education Act requires food producers to attach detailed nutrient content labels to their products. Many other examples could be given.

A particularly interesting recent example, and one close to this article’s investigation, is the American Law Institute’s newly approved *Principles of the Law of Software Contracts*. The *Principles* seek to make software contracts more accessible to consumers. Specifically, § 2.02 provides safeguards for transactions involving mass-market retail transactions by directing a series of seller best practices with respect to disclosure that, if followed, ensure enforcement of a seller’s terms. One provision requires both online and physical software vendors to post the terms of their license agreements in a “reasonably accessible” manner on their website.<sup>3</sup> This would by definition eliminate the use of “pay now, terms later” (PNTL) contracts, which are contracts that buyers are able to access only after purchase. The *Principles* ask that notice be conspicuous and terms be available via a hyperlink before purchase “so that a transferee cannot help but see the notice.” The *Principles* also require sellers who sell their software through their own corporate website to click on “I agree” next to a scroll box that contains the text of the license.

If effective, increased disclosure is an appealing way to combat problems associated with imperfect information. It may be cheaper; it is nonintrusive and thus does not risk ill-informed direct regulation of terms and mandating standards; it preserves consumer choice; and it encourages sellers to compete on the basis of the information disclosed. As argued by Beales, Craswell, and Salop (1981b) and

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<sup>3</sup> It should be noted that even terms that comply with § 2.02(c)(1) would be subject to a claim that the terms are unconscionable or against public policy.

Whitford (1973), disclosure attacks the cause of the problem as opposed to its symptoms.

The theory of disclosure-based regulation is also elegant. By reducing search costs, disclosure facilitates comparison shopping and increases the number of informed buyers. In principle, a disclosure regime can be beneficial even if it does not affect the behavior of most consumers; it can be effective even if most consumers do not read or comparison-shop based on what they read. As Schwartz and Wilde (1979) articulate, what is required is that these regimes increase the number of informed consumers to a critical mass – what the authors call an “informed minority.” If this critical mass of comparison shoppers exists, disclosure will be effective in sufficiently competitive markets, because sellers will have an incentive to satisfy the informed buyers. The uninformed nonreaders get a free ride to acceptable standard terms. The argument requires that consumers have homogeneous preferences regarding terms and that sellers be unable to discriminate between informed and uninformed consumers.

The informed-minority argument has been used broadly to resist nondisclosure intervention. Examples can be found in Spence (1977) and Salop and Stiglitz (1977). Yet critics have expressed doubts about the ability of disclosure regimes to generate significant increases in the number of informed consumers. Goldberg (1974), Ben-Shahar (2009), and Ben-Shahar and Schneider (2010) have argued that consumers might ignore fine print, regardless of how accessible it is. One study of special relevance here is Bakos, Marotta-Wurgler, and Trossen (2011), which found that only about one in every thousand online software shoppers voluntarily reads the EULA (under existing disclosure practices). Or, perhaps they do not understand it when they do read it, as Whitford (1973) has suggested.

Behavioral economics has also taught us that consumers rely on heuristics to cope with complex everyday decisionmaking. Indeed, a number of studies, including Bar-Gill (2004, 2008), Gabaix and Laibson (2006), and Della Vigna and Malmendier (2004), suggest that some markets may not be functioning optimally, due to various types of bounded rationality. For instance, Korobkin (2003) explains how consumers tend to rely on a few salient product attributes in their purchase decisions. Some disclosures that highlight the few most relevant product or service features might improve their decisionmaking. But, as Issacharoff (2011) notes, it is unclear that just offering *more* information will be helpful.

The stakes are high for both consumers and sellers. If the critics are correct and contract readership remains unaffected by increased contract access, mandating increased disclosure would be ineffective and potentially even harmful. First, consumers would continue to make purchasing decisions without fully considering terms. Second, as Ben-Shahar (2009) and Hillman (2006) argue, courts might mistakenly be led to believe that sellers' terms are the product of well-functioning market mechanisms and be more lenient in policing abusive terms. Third, in the software context, required disclosure in the form of clickwraps will be costly to sellers if the additional steps in the checkout process result in anxious shoppers los-

ing their patience and abandoning the transaction.<sup>4</sup> These recommendations would generate significant and costly changes to current software-seller disclosure practices, because roughly half of the contracts for software sold online currently are PNTLs or browsewraps.<sup>5</sup> It would also be costly to buyers, who would be required to spend time manifesting assent by clicking on terms they might rationally have no interest in reviewing.

At the end of the day, however, no amount of theory or debate can settle whether disclosure regimes are capable of informing consumers and shaping their behavior. These are purely empirical questions.

## *2.2 Has Disclosure Regulation Been Effective? Prior Evidence*

Existing empirical evidence on the effectiveness of disclosure regimes is piecemeal and mixed. Choi, Laibson, and Madrian (2010) found that subjects who were required to choose among four S&P 500 index funds often failed to choose the ones with lowest fees even though these would be sure to perform best on a net-fee basis. This behavior persisted even after subjects were given prospectuses that included more transparent fee summary sheets. In another set of experiments by Beshears et al. (2011), shortened SEC disclosures were shown to cause only modest improvements in portfolio choice. Another study by Agarwal et al. (2009) found that young adult and relatively aged borrowers make poorer financial choices, suggesting limits to the ability of any disclosure regime to improve decisionmaking.

In the food retail market, Jin and Leslie (2003) found that the introduction of standardized hygiene-quality grade cards that are required to be displayed in restaurant windows in Los Angeles was shown to cause restaurant grade inspection scores to increase, the sensitivity of consumer demand to hygiene scores to increase, and hospitalizations due to food-borne illnesses to decrease. On the other hand, Bollinger, Leslie, and Sorensen (2011) found that the introduction of mandatory calorie postings at chain restaurants in New York City decreased calorie consumption at Starbucks by a modest 6%. A study of the effect of the Nutrition Labeling and Education Act on the salad-dressing market by Mathios (2000) found a statistically significant decrease in sales of dressings with the highest fat content after the passing of the act. Naturally, if consumers do not read or understand the labels, such regimes will be less effective. In that regard, Lacko and Pappalardo (2007) found that improved mortgage disclosures might increase understanding of the features of complex loans.

Some have suggested that disclosure regimes are likely to be effective only when the disclosure becomes embedded in everyday decisionmaking and corrects a consumer misperception. For example, Bertrand and Morse (2011) found that disclosure regimes for payday borrowing were more effective if they took into

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<sup>4</sup> Mann and Siebeneicher (2008) find that retailers may not find it worth the extra clicks during checkout required to obtain legally enforceable assent.

<sup>5</sup> This number comes from a previous empirical study on EULAs by Marotta-Wurgler (2009).

consideration borrowers' cognitive biases. Disclosure could thus be used as a tool to "de-bias" individuals – or at least those that responded to the information, who in this case were only ten percent of borrowers.

### *2.3 Other Mechanisms that Help Markets Function*

While this article focuses on disclosure regimes, it is important to note that there are other market mechanisms that may induce sellers to compete over contract terms even if few consumers read them. For instance, as Baird (2006) and others have noted, sellers concerned with reputation might have an incentive to offer better terms or product quality. Jin and Leslie (2009) found that chain restaurants have higher hygiene scores than independent restaurants, perhaps because of the potential reputational consequences of any violation. Sellers might also be disciplined by the threat of litigation, as noted by Issacharoff and Delaney (2006).

Alternatively, sellers may have an incentive to disclose information voluntarily and advertise to gain a competitive advantage. As noted by Milgrom (2008) and others, this works if buyers are sufficiently sophisticated and attentive. For example, Mannering and Winston (1995) found that consumer adoption of cars equipped with airbags in the 1990s appears to have been facilitated by media coverage as well as friends' accounts of their experiences with airbags. Similarly, Scott-Morton, Zettelmeyer, and Silva-Rosso (2001) found that consumers who use Internet referral services when purchasing a car pay \$450 less on average; these savings are due presumably to information provision by the referral service.

When buyers are naive and product attributes are not as salient as price or are not reported by the media, however, they might remain imperfectly informed. This would seem to be a plausible characterization of many if not most standard-form contract settings. If so, it would explain why so many disclosure regimes have been proposed.

### *3 Does Disclosure Matter? An Empirical Approach*

Given the various existing and proposed information disclosure regulations and the potential effects on sellers, it is important to enlarge the body of evidence on whether a policy of increased standard-form contract disclosure can inform consumers effectively and create an informed minority of buyers capable of disciplining sellers. Indeed, that would seem to be a prerequisite to regulation.

My approach is to study the behavior of those shopping for software products online. I track the shopping behavior of Internet visitors to 81 software retailers who sell their products through their corporate website and who make their EULAs available somewhere on their site. I examine the rate at which shoppers choose to become informed about the EULAs that govern the featured software. In particular, I study whether consumers are more likely to access EULAs that are more prominently displayed.

The market for online software products is a particularly good setting to examine the potential effectiveness of increased contract disclosure policies. First, the EULA includes important nonprice features, such as rights and restrictions about how the software product can and cannot be used. EULA terms continue to be at the center of several legal disputes.<sup>6</sup> Second, as mentioned earlier, the ALI has recently approved the new *Principles of the Law of Software Contracts*. These were drafted under the assumption that the mass market for software is not functioning well with regard to contractual terms. This assumption is not unreasonable, given evidence that there currently is no informed minority in the online software market. Knowing whether increased contract disclosure is actually capable of creating an informed minority of software buyers is obviously crucial for evaluating the desirability of this approach. Finally, a number of recent debates on legal reform and the role of disclosure regulation in standard-form contracts focus on electronic contracts in general and software contracts in particular.

To estimate whether increased contract disclosure is associated with increased readership, I begin by classifying visitors to the company websites in my sample into those who have an intent to shop and those who visit for other reasons. For instance, some visitors may visit a software retailer to find out how to fix a problem in a copy they already own, or to watch commercials. I use the approach of Bakos, Marotta-Wurgler, and Trossen (2011) to distinguish shoppers from nonshoppers. I also distinguish the shoppers who purchase a product from those who do not and classify them as *buyers* and *nonbuyers*. I use initiation of a secure checkout process to identify buyers. Finally, I measure the number of visitors – buyers and shoppers – who read EULAs. That is, I estimate the number of readers and nonreaders among visitors classified as buyers and shoppers. I define readers as those who access a EULA page for more than one second. This gives an upper bound to the number of people who effectively read contracts, as some may click on them accidentally, and some may spend too little time on them to have understood their terms.

### 3.1 Data and Sample Construction

The data set contains clickstreams of 92,411 U.S. households for January 2007 and was introduced in Bakos, Marotta-Wurgler, and Trossen (2011). These data were collected by a major online research company that tracks the Internet browsing behavior of a representative panel of U.S. households who have agreed to install in their computers a program that tracks the URL of every page visited during its Internet sessions.

The panel of households was selected to be representative of the population of U.S. households with Internet access. Each household is assigned a unique anonymous identifier, which is used to track its web browsing activity and to classify it into

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<sup>6</sup> Some examples can be found in *Altera Corp. v. Clear Logic, Inc.* 424 F.3d 1079 (9th Cir. 2005); *Davidson & Assocs. v. Jung*, 422 F.3d 630 (8th Cir. 2005); *Davidson & Assoc. v. Internet Gateway*, 344 F. Supp. 2d 1164, 1178 (D. Mo. 2004); *M. A. Mortenson Co. v. Timberline Software Corp.*, 998 P.2d 305 (Wash. 2000).

“sessions.” The information captured by the software includes the URL of each page visited, the time spent on that page, whether that page was within a secure (i.e., encrypted) connection, the web server delivering the web page, and a unique identifier for the company or division owning that web server. The company also collects detailed demographic information about the households.

I construct the sample by selecting those user visits to retailers that sell software products on their corporate website and that make their contracts available somewhere on their site, either prior to or during the checkout process. I use the data provider’s classification of markets to identify visits only to software companies. I exclude vendors who offer their products for free (i.e., freeware providers), vendors who do not sell their product via their corporate website, peer-to-peer software providers, and web hosting companies. I include only companies with at least fifty unique visitors who viewed at least two pages. My interest is in users with intent or potential intent to purchase (shoppers), and users that view only a single page are less likely to have such intent. A total of eighty-one companies satisfied the above conditions.

For each of these companies I manually obtained the URLs of all EULAs available on the company’s website, regardless of where they are located. Some companies make their EULAs available to visitors prior to purchase by posting them somewhere in their website. Others present them during the checkout process and require buyers to click on “I agree,” either next to a hyperlink that directs the user to the terms of the contract or underneath a text box containing the license terms. All these companies are part of the sample, although, as explained below, the subset that presents terms in a text box is best analyzed separately.

### 3.2 *Company and Product Characteristics*

Following Bakos, Marotta-Wurgler, and Trossen (2011), I collect company and product information that might affect a shopper’s propensity to become informed about EULA terms. I obtain data on each company’s annual revenue (in 2009), year of incorporation, and public or private status. These data are from public sources or direct communications with the companies.

The company-level data are described in Table 1. The average revenue of the eighty-one sample companies is \$1.52 billion, a figure driven by a few large firms; the median revenue is only six million dollars. The mean age of these companies, measured as 2011 minus the year of incorporation, is 17.7 years. About a quarter of the companies are publicly traded.

I gather product-related data for each company’s flagship product. For companies with many products, I select the one that is most popular or that accounts for the largest fraction of sales. If such information is not available, I select the product most prominently featured by the vendor. I record the price of the featured product and collect information about the median price of all other products offered by each seller, to get a sense of how representative the featured product is. I note whether the featured product is a single- or multi-license agreement and whether it is targeted

*Table 1*  
Sample Software Companies and their Products

	Number	Mean (s.d.)	Mini- mum	Median	Maxi- mum
<i>Panel A: Company Characteristics</i>					
Revenue (\$ millions)	81	1,520 (6,850)	0.1	6	51,100
Age (years)	81	17.7 (9.98)	5	16	58
Public company	81	0.27 (0.45)	0	0	1
<i>Panel B: Product Characteristics</i>					
Consumer product	81	0.68 (0.47)	0	1	1
Price (\$)	81	394 (1,025)	10	58	5,290
Median price (\$)	81	352 (1,015)	1	49	5,000
Trial (featured product)	81	0.84 (0.37)	0	1	1
Trial (most products)	81	0.78 (0.42)	0	1	1

for software developers, as that affects price. I also note whether the sellers offer trial versions of the product, and whether the product is targeted to business users or the general public. Finally, I classify each product into one of 150 software product categories, e.g., graphics or spreadsheets, based on the classifications that Amazon.com uses.

Table 1 also provides summary statistics on the flagship products of each company. Sixty-eight percent are targeted to members of the general public. The average price of the featured products is \$394, and the median is \$58. The featured products are representative of the firm's products, at least with respect to price, given that the average prices of all software products are close to these. This is helpful, as I examine access to all products for which there is a EULA posted. Finally, eighty-four percent of the sample sites offer a trial version of their featured product or of the product in the sample, and seventy-eight percent offer trial versions for most of their products.

### 3.3 Contract Disclosure

One of the two empirical goals of this article is to measure whether more accessible contracts are more likely to be read (the other is, given reading, whether what is

in the contract affects purchase decisions). I therefore collect *all* the EULA URLs that are available on a company's website. As noted above, many firms sell only one product and thus make available online only the EULA that governs the use of that product. Other firms sell many products that are all governed by a single EULA posted on their website, and still others post different EULAs for different products. I record every EULA posted. This allows me to examine visits to all products with an associated EULA in a given company, not just the flagship products. There turn out to be 240 unique URLs corresponding to EULAs for my sample companies.

I measure contract accessibility as the number of mouse clicks it takes to access the EULA from the most natural path to purchase. Defining the "natural path to purchase" may sound complicated and subjective, but it is actually a straightforward process, as most companies attempt to make it as easy as possible for consumers to navigate through their sites and purchase their products.

For example, consider a buyer who wishes to purchase an antivirus software product from a certain vendor. The buyer will select the product and proceed to check out. Imagine that before he is allowed to enter his credit-card information, the buyer must agree to the product's EULA by clicking on "I agree" below a scroll box that contains the standard terms – this is a clickwrap contract. Because the EULA is directly on the most natural click path for purchasers and requires no extra clicks to find, it has an access score of zero: zero additional clicks are required to see it. If the seller had required the buyer to click on "I agree" but invited her to access the EULA by clicking once more on an adjacent hyperlink, on the other hand, I record the access score as 0.5. This is because although the buyer must actively acknowledge the existence of a contract, and so in that sense it is very easy to find, he must also click once to see its terms. These two types of contract presentations alert buyers of the EULA by forcing them to acknowledge it.

The distribution of contract accessibility by company is reported in Table 2. As of the time of the data collection process, 3.70% of sellers place text boxes with the terms over the "I agree" button – the maximum possible disclosure – and 27.16% of sellers present them in nearby hyperlinks that must be clicked to see the terms.

The rest of the companies in the sample make their contracts available on their websites but require buyers to do some extra hunting to find them. For instance, Symantec presents all of its product licenses at a minimum of two clicks away from the most obvious path of purchase. At the time of this writing, a link at the bottom of the homepage, entitled "license agreements," provides links to the EULAs of Symantec products. Thus it takes a buyer one click from the main page to access the list of EULAs, and a second click to actually see the EULA of the desired product, for a total distance of two clicks. About forty-two percent of sellers place their license only one click away; across all companies that are not of the mandatory "I agree" or clickwrap character, the average number of clicks required to see the EULA is 1.66. One must be determined indeed to find some of these contracts, as the links are not always labeled clearly, and the text can be very small (perhaps intentionally). At face value, the table suggests that regulator concern about current disclosure practices is not unwarranted.

Table 2  
How Well are Software Licenses Disclosed?

Disclosure of EULA (number of clicks from purchase path)	Number of EULAs	Percentage
0 (clickwrap)	3	3.70
0.5 (clickwrap)	22	27.16
1	34	41.98
2	12	14.81
3	7	8.64
4	2	2.47
5	0	0
6	1	1.23
Total	81	100.0

### 3.4 Shoppers and Shopping

I am interested in observing the behavior of visitors who intend to shop. The data provider reports the entire Internet browsing activity of my visitors, so I cannot know for sure what fraction of the visitors to the sample retailers are true shoppers as opposed to having other motives. I begin by restricting my analysis to visitors with potential intent to purchase by excluding visits that do not access servers dedicated to shopping or purchasing (e.g., servers dealing with promotions). I then follow the approach in Bakos, Marotta-Wurgler, and Trossen (2011) to identify shopping-oriented visits more precisely. This bears some explanation.

I define a *user visit* as all page views (URL hits) from a company's website within a single user session. A widely used approach in the clickstream literature is to identify shoppers by focusing on the intensity of a company visit. Users with intent to consider a purchase – I call them shoppers – are more likely to view several pages in the retail side of the company's website. This observation helps me to separate casual browsers from shoppers.

Specifically, I use two definitions of *shopping visits* to estimate whether the user was indeed shopping. The broader definition of a shopping visit is one in which at least five pages were accessed in a given company's website. This definition should exclude many of the casual browsers. A much more restrictive definition of a shopping visit is one in which the user has selected a product and initiated a checkout or payment in a given session. I identify these visitors by using the initiation of the checkout process. This definition is overly restrictive, as it excludes those many shoppers that do not ultimately buy. Given one too-permissive definition of shopping visit and one too-restrictive definition, I can set upper and lower bounds on the quantities of interest. In this case, as the bounded intervals turn out to be very tight, the precise definition of shopper is immaterial.

Once I identify shoppers, I define a *company visit* as a period of web browsing separated by at least thirty minutes of inactivity. A user can thus have multiple visits to a given company in a day, a week, or a month. The data provider uses this definition, as do several articles in the literature, such as Moe and Fader (2004) and Bucklin and Sismeiro (2003). I refer to all page views from a single company's website within a single user session as a company visit by that user.<sup>7</sup> The number of unique visitors in the sample under the broader definition of shopping visits, which is at least five page views at that company's website, is 35,000.

The data provider also gathers demographic data about shoppers and households that may affect their likelihood of becoming informed about license terms. I use data on the age and gender of the head of the household, household income, household size, and presence of children. Because the sample is constructed to be representative of Internet users, and these data are simply control variables in the analysis, I refrain from reporting their numerical effects to save space, but they are available upon request.

#### 4 *Are More Accessible Contracts More Likely to be Read?*

Here I test whether contracts that require fewer extra clicks are more likely to be read, or at least seen. I focus on the frequency with which shoppers access the URL of a software license and whether this frequency increases as contracts are made easier to find.<sup>8</sup> I compute descriptive statistics on company visits and license accesses by contract accessibility under each of the two definitions of shopping visit. I follow this with a simple regression to estimate the effect of contract accessibility on contract access while taking into account a variety of control variables.

##### 4.1 *The Relationship between Contract Reading and Disclosure*

For this portion of the analysis, I focus on visits to companies where EULA access is possible but optional. In other words, I exclude the companies with a EULA access score of zero because all shoppers who begin the purchase process are presented with the text of the EULA. For them the fraction that voluntarily "reads" cannot be determined.

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<sup>7</sup> While useful, this definition might be too narrow, as online visitors may consider their purchase decisions over time and visit a company on multiple occasions, over the span of several days, before completing a purchase. Johnson et al. (2004) show that repeated visits to a company within a month typically correspond to the same shopping cycle. I thus tried an alternative definition of company visit by aggregating the number of visits to a single company in a given month. Results for this approach were qualitatively and quantitatively similar and are available upon request.

<sup>8</sup> Most firms have the same accessibility score for all their products' EULAs. Very few firms make their EULAs available multiple times. In those cases, I record the lowest (i.e., most accessible) score.

The essential results of this investigation are in Table 3. The top panel looks at uninterrupted visits by those who clicked on at least five pages during a company visit. Start from the bottom of this panel, and look at the extent to which shoppers accessed the EULA of the company that made it hardest to find, at six clicks away. (From Table 2, we know there is only one such company.) Among 235 shopping visits to this company, including repeat visits, the EULA was not accessed even once. The 1,160 shopping visits to websites where the EULA was four clicks away from the purchase path also witnessed not a single click on a EULA. It seems plausible to conjecture that at least a few shoppers may have been interested in reviewing these contracts but simply could not find them.

The picture does not change much as disclosure increases. Of the 49,079 shopping visits to companies locating their EULAs three clicks from the purchase path, only thirteen saw the EULA accessed – a rate of about three EULA accesses per ten thousand shopping visits (i.e., potential EULA accesses). When disclosure is improved to be one click closer to the purchase path, for a total of two extra clicks required, the readership rate actually falls slightly, to around one in nine thousand. When it is one click closer still, now requiring only a single click on a hyperlink that is actually on a purchase-path page, the readership rate increases but is still tiny: only about one in every three hundred shoppers.

There were 4,513 shopping visits to companies that make their contract available via a clickwrap, including repeat visits. Shoppers voluntarily accessed the EULA of these companies only seven times. In other words, only a fraction of one percent of visits by shoppers included a EULA click. Note that with these clickwraps, the EULA is as well disclosed as it can possibly be short of being printed on the screen along the path of purchase, which as we saw above is a method of disclosure chosen by only three out of eighty-one firms.

Many of those who clicked on the EULA are likely not to have actually read and comprehended it. We can see this in the time spent on the license URL. The median time for a “reader” to spend on that URL is between thirty and sixty seconds (the average time spent on EULAs ranges from forty to one hundred and fifty seconds). Bailey and Bailey (1999) found that the average EULA is about 2,300 words long, and the average human reading speed is less than three hundred words per minute. The reading speed is doubtless lower for legalese. Therefore, the low rates of EULA clicking that we observe still overstate the fraction of shoppers that are actually informed about license terms.

The second panel of Table 3 shows results for shoppers who went all the way to placing a product in a shopping cart and accessing a secure checkout page. Many of these are therefore actual buyers, though some do not complete the checkout process. The number of visits in this group is much smaller than those in the previous two, consistent with prior evidence of online conversion rates around two percent. The pattern of visits to EULAs by accessibility also is slightly different under this definition of a shopping visit. Presumably, this group of shoppers would be especially interested in seeing the terms that are about to govern the use of their

Table 3  
Does More Disclosure Induce More License Reading?

Disclosure of EULA (number of clicks from purchase path)	Number of company website visits	Number of visits with EULA clicked	Percent of visits with EULA clicked	Median length of EULA view (seconds)
<i>Panel A: At Least Five Pages Accessed during Visit</i>				
0.5 (clickwrap)	4,513	7	0.16	58
1	8,110	23	0.28	27
2	9,185	1	0.01	44
3	49,079	13	0.03	35
4	1,160	0	0	–
5	0	–	–	–
6	235	0	0	–
<i>Panel B: At Least One Secure Checkout Page Accessed during Visit</i>				
0.5	381	2	0.52	372
1	3,157	4	0.13	77
2	1,111	0	0	–
3	105	0	0	–
4	112	0	0	–
5	0	–	–	–
6	0	0	0	–

potential purchase. Yet this does not appear to be the case; almost none of them voluntarily accessed the license.

Once again, *all* shoppers who visit companies with a 0.5 EULA access score are made aware of the EULA, because the checkout process requires them to explicitly agree to it. Yet even for this group of particularly interested shoppers, only about one in two hundred clicks the EULA. It would appear that increased disclosure is essentially unable to induce shoppers to study the terms, even when such shoppers are given very clear notice by being required to click “I agree” to such terms.

Let us summarize the results. It is statistically true that increasing disclosure does increase readership. In unreported regressions (available upon request), these results hold after controlling for product, company, and shopper controls.<sup>9</sup> The rates of EULA access do tend to increase when it is located closer to the path of purchase. This is clearly *not* the proper takeaway, however, because the increase is from a rate of zero to a rate of epsilon, even for the *most* prominently disclosed EULAs and the *most* affected group of shoppers. In the present setting, increasing disclosure does not, and most likely cannot, increase contract readership to any meaningful rate.

<sup>9</sup> The results are similar for linear probability, logit, and probit models.

I now return to the best-disclosed contracts by analyzing the time spent on those where the sellers present them in a text box next to a box that shoppers must agree to, most commonly during the checkout process. Earlier I referred to these contracts as having an access score of zero. I can measure only the time spent on these pages, as all shoppers who decide to purchase a product are presented with the text of the EULA, whether they want to see it or not. Companies that choose this mode of presentation also may require the shopper to write her name, billing address, and credit card information in the same page where the EULA text appears, so the method of assessing readership based on time spent on that page is somewhat less reliable. Note that, to save space, the numbers to follow are not reported in any table.

In my data there are 3,269 visits to firms with EULAs with an access score of zero, where visit is defined as access of at least five pages. Out of these, 14.4% visit the EULA page, where they spend a median time of 68 seconds. The way to interpret this result is that 14.4% of visitors started, but did not necessarily complete, a checkout process. Given that these companies often require shoppers to enter personal information *and* agree to the EULA on the same page, the information-providing steps probably account for most of the time spent on this page. But again, even if we discount the requirement of entering personal information, it is unlikely that much reading or comprehension of terms occurs, given the time spent on the page.

Finally, on limiting consideration to visits with shoppers that began a checkout process, the number of company visits drops to 643. Given that the EULA is presented either during registration or at some point during the checkout process, it is not surprising that 302 out of the 643 company visits (or 47%) also had a EULA visit. The 53% of visits that do not have a EULA view are situations where shoppers began a checkout or registration process but did not get far enough to access the license's URL. The average time spent on these pages, when accessed, was 146 seconds. The general conclusion still holds: No matter how prominently EULAs are disclosed, the vast majority of shoppers do not read them.

A possible explanation is that even though this type of EULA is conspicuously placed on a page, it often appears only at the end of the transaction during the checkout process, which is initiated after a shopper has already decided to purchase. Shoppers that could in theory be part of the informed minority, accessing the EULA terms as part of their consideration of a product for purchase, might find it too costly to select a product and begin a checkout process just to access the license. In that sense, a license that is one or even two clicks away from the home page of the company might be more "accessible" even if not deliberately presented to all shoppers. Similarly, once a shopper has decided to purchase a product and has started a checkout session without taking into consideration the EULA terms, she might no longer care about the EULA. This might also explain the short time spent on EULAs presented during the checkout process.

In any event, the small fraction of consumers accessing EULAs indicates that shoppers perceive a high cost of finding and reading the license relative to the expected benefits. Given that contract readership does not increase significantly with

increased disclosure, the primary cost lies not in locating and accessing EULAs, but rather in reading and assessing contract terms. Contracts may be too long or hard to understand, or consumers may not care enough about the terms to incur the cost of reading them. While several terms involve restrictions on use, warranties, and maintenance and support, the majority of terms are relevant only in low-probability events. Failure to read regardless of disclosure may thus be a perfectly rational action.<sup>10</sup> The bottom line for policy is that mandating disclosure is unlikely to meaningfully affect the fraction of consumers becoming informed.

To put the same conclusion in more theoretical terms and explore its implication for the possible *efficiency* of terms sellers present, note that Bakos, Marotta-Wurgler, and Trossen (2011) estimate the minimum fraction of readers necessary to support an informed-minority equilibrium. In the absence of mandated assent and with conservative assumptions about the cost of providing favorable contract terms, they find that the fraction of shoppers that access EULAs is between one and two orders of magnitude less than what would be required to support an informed-minority equilibrium. My analysis offers no evidence that increased accessibility or mandated assent per se could increase readership enough to change this conclusion. Increased disclosure or mandated assent simply would not raise readership enough to put competitive pressure on sellers.

#### 4.2 *Can Consumers Become Informed without Reading the Contract?*

Perhaps consumers become informed about terms by consulting relevant websites, such as *Consumer Reports*, blogs dedicated to exposing sellers with bad terms, or specialized news outlets that discuss the content of standard-form contract terms, as noted by Becher and Zarsky (2008). Bakos, Marotta-Wurgler, and Trossen (2011) explore this issue, and I summarize their results. They obtain a list of the twenty-five most trafficked sites likely to have information about EULA terms. Next, they review the particular pages accessed by shoppers in each of these sites to determine whether they sought information about EULA terms or product quality. They find that shoppers accessed EULA information in consumer review sites in only three out of 148,552 sessions with at least two pages accessed (a more inclusive definition of shopping visit than mine). Also, less than a hundred shoppers accessed news pages with even general information about particular software products, not necessarily the products that they were shopping for. It is thus unlikely that shoppers are becoming informed by other Internet sources. Chari (2010) finds that software quality ratings in popular review sites are uncorrelated with contract quality. But even if some

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<sup>10</sup> This might be particularly true for low-price products. However, even when I restrict the sample to products that cost \$500 or more, EULA readership remains low. The most expensive products in the sample cost several thousand dollars, so it is hard to attribute low EULA readership to the value of the good for products in this range. I also check whether shoppers are less likely to read the EULAs of products that are more likely to be purchased repeatedly, such as word processing. I find no relationship between the nature of the use of the software and users' propensity to access EULAs.

shoppers did consult such websites to become informed, this would not affect the conclusion about the efficacy of disclosure by sellers.

Another method of becoming “informed” without reading is to rely on sellers’ reputations when deciding whether to purchase. Indeed, Bakos, Marotta-Wurgler, and Trossen (2011) find moderate support for this possibility; buyers are slightly more likely to access the EULAs of smaller companies that might not be as well known to consumers. But even if sellers are constrained by reputation, it remains the case that mandating contract disclosure will not change consumer behavior. Sellers might or might not be disciplined by reputational concerns, but they are not being disciplined by the informed-minority mechanism that increased disclosure hopes to create.

### *5 Do Consumers Care about what they Read?*

This section of the article explores the second condition necessary for effective disclosure regulation: that people who read contracts act on what they read. This investigation also has implications for the design of any proposed regulation, for if consumers do not understand terms or act in a way that maximizes their own interests, the manner in which information is conveyed may need to be changed. For example, the contracts may need to be simplified, or written in plainer language, or have their key provisions highlighted. I examine whether consumers who read more buyer-friendly contracts are more likely to purchase a product.

#### *5.1 A Closer Look at Contract Content*

Following prior work, I measure the bias of a given contract based on how it treats twenty-three common terms that allocate rights and risks between buyers and sellers. As indicated in Table 4, these include terms that relate to acceptance of the license, scope, restrictions on transfer, warranties and disclaimers of warranties, limitations of liability, maintenance and support, and conflict resolution. I measure the relative buyer-friendliness of these terms against the relevant default rules, namely Article 2 of the Uniform Commercial Code. These default rules govern contracting parties’ relationships should the license fail to specify a term that is relevant to the dispute.

Table 4 lists each term tracked in the EULA and how it is scored for purposes of measuring buyer versus seller bias. For each term that is more (less) pro-buyer than the relevant default rule, I add (subtract) one point. For each term that is missing, or is specified but substantively matches the default rule, I add nothing. After all terms have been counted, the sum represents a simple bias index. Highly negative sums indicate contracts that are relatively more one-sided toward the seller. The most pro-seller contract score possible is  $-17$ . More positive sums indicate relatively more pro-buyer contracts. The most pro-buyer contract score possible is  $+6$ . While crude, this methodology is objective and does not require information about buyers’ preferences.

*Table 4*  
Measuring the One-Sidedness of EULAs

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Each EULA that is clicked (12 unique EULAs) is scored per below. The sum of the scores is the bias of the license. Lower scores indicate more pro-seller bias. The most pro-seller (pro-buyer) score possible is -17 (+6).

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Acceptance of License

- Does license alert consumer that product can be returned if she declines terms?  
1 = yes, 0 = no

Scope of License

- Does definition of “licensed software” include updates or access to new versions, etc.?  
1 = yes, 0 = no
- Are there license grant restrictions? 0 = no, -1 = yes
- Can licensee alter/modify the program? 0 = yes, -1 = no
- Can licensee create derivative works? 0 = yes, -1 = no

Transfer of License

- Are there limitations on transfer? 0 = yes, -1 = no
- Can licensee transfer the software to an end user who accepts the license terms without licensor’s prior permission? 0 = yes, -1 = no

Warranties and Disclaimers of Warranties

- Are there express warranties? 1 = yes, 0 = no
- Is there a limited warranty stating that software is free from defects in materials and workmanship or that the software will work according manual specifications in force for a limited period? 1 = yes, 0 = no
- Is there a limited warranty stating that the media of software distribution and documentation are free from defects in force for a limited period? 1 = yes, 0 = no
- Is the disclaimer in caps, bold, or otherwise conspicuously presented? 0 = yes, -1 = no
- Disclaims IWM and IWFP or contains “AS IS” language? 0 = no, -1 = yes
- Disclaims warranty that software will not infringe on third parties’ intellectual property? 0 = no, -1 = yes

Limitations on Liability

- Who bears the risk of loss? 0 = licensor, -1 = licensee
- Who bears the performance risk? 0 = licensor, -1 = licensee
- Disclaims consequential, incidental, special, or foreseeable damages?  
0 = no, -1 = yes
- Are damages disclaimed under all theories of liability (contract, tort, strict liability)?  
0 = no, -1 = yes
- What is the limitation on damages?  
0 = none or greater than product price, -1 = less than or equal to price
- Is there an indemnification clause? 0 = no, -1 = yes

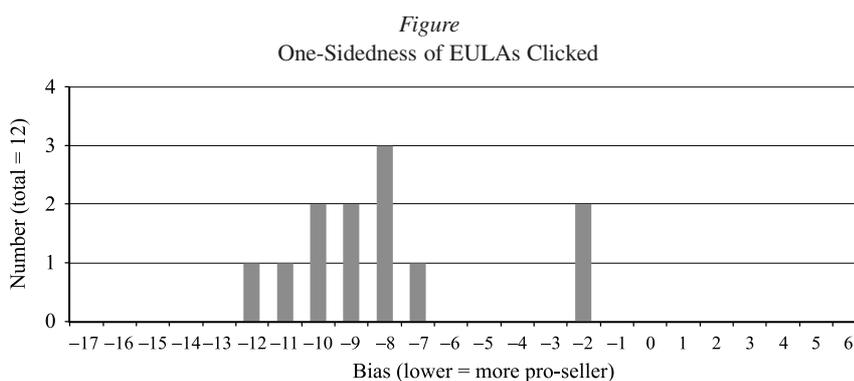
Maintenance and Support

- Does base price include M&S for 31 days or more? 0 = no, 1 = yes

Conflict Resolution

- Forum specified? 0 = no, -1 = yes
  - Law specified? 0 = no, -1 = yes, and different from forum state
  - Who pays licensor’s attorney fees?  
0 = paid by losing party or no mention, -1 = paid by licensee
-

Only twelve contracts need to be scored in this manner, because only twelve distinct contracts were accessed by at least one shopper in the month of study. The average bias for the read contracts was  $-8$ , meaning that the average EULA had a net of eight terms that were more pro-seller than the relevant default rules. The bias scores range from  $-12$  to  $-2$ . The figure shows the full distribution for the twelve contracts.



## 5.2 Purchase Behavior as a Function of Contract Bias

The second key empirical question is whether those few shoppers that read are more likely to purchase a product when the license terms are more favorable. In my data, there are forty-four voluntary accesses of EULAs (i.e., EULAs with accessibility scores of one or greater). Twelve unique EULAs were accessed, some of them multiple times. Interestingly, not one consumer accessed multiple EULAs.<sup>11</sup> In order to control for other influences on the decision to purchase, answering this question requires regression analysis. For ease of interpretation, Table 5 reports estimation using linear probability regression and robust standard errors, with the dependent variable equal to one if the “reader” subsequently began a secure checkout session, and zero otherwise.

The independent variable of interest is the overall bias index, with higher values indicating relatively more pro-buyer terms. Product controls include dummies for whether it is for the general public or businesses, whether it is offered on a subscription basis, and the natural log of the median price of all of the company’s products. Other controls include the number of seconds spent on the EULA page and the total number of pages accessed during the company visit. Company controls include the natural log of revenue and company age. Shopper controls include the logs of household income and head of household’s age and a dummy for head of household’s gender.

<sup>11</sup> Two consumers accessed the EULAs of the same company on separate occasions, but they did not check the EULAs of different companies.

Table 5  
Does Contract Bias Affect Purchase Decisions?

Independent variable	Dependent variable = 1 if EULA reader begins secure checkout; else = 0	Dependent variable = 1 if EULA reader begins secure checkout; else = 0
Bias	-0.032**	-0.070**
No. of seconds on EULA	no	0.001***
Control for no. of pages visited	no	yes
Product controls	no	yes
Company controls	no	yes
Demographic controls	no	yes
No. of EULA clickers	44	44
$R^2$	0.099	0.380

Note: Least-squares regression. \*\*\*, \*\*, and \* denote statistical significance at the 0.01, 0.05, and 0.10 level, respectively.

The results indicate that there is no positive relationship between favorability of terms and the probability that a product will be purchased. In fact, a one-point increase in buyer friendliness is associated with a seven-percentage-point-*lower* probability of purchase. This difference falls to three percentage points when all of the controls are removed. Readers do not appear to react to what they read; they are undeterred by relatively pro-seller terms. (Of course, this raises the question why they would choose to access the license in the first place.) While it is important to note that the sample of shoppers who access EULAs is not random, none of the evidence suggests that those few shoppers who do read license terms respond to them in the fashion that would be expected of an informed minority.<sup>12</sup>

## 6 Conclusion

Regulators have long been concerned that most consumers do not read boilerplate and do not know the rights and obligations they are assuming in the transaction. Regulators typically try to maximize the ability of competitive forces to keep sellers in check by requiring that boilerplate be disclosed prominently. An important example is the new *Principles of the Law of Software Contracts*, which includes provisions increasing contract accessibility in mass-market software transactions. Other disclosure regimes have been applied in consumer financial markets and are being considered for some types of Internet contracts, such as privacy policies.

<sup>12</sup> The results are similar for logit and probit models. I also consider the possibility that consumers care about only one of the seven categories of terms that I track, and measure contract bias based on that term alone. None of the seven associated regression models indicate that reading better terms increases the likelihood of purchase.

For any disclosure regime to make a difference, two conditions must be met. First, disclosure must increase the number of informed consumers, and thus the number of comparison shoppers, to some critical mass. Second, conditional on reading, consumers must react to what they read. They need to vote with their feet (or mouse, as it were) and shop elsewhere when they do not like what they read. This leads to competitive pressure on sellers to present reasonable standard terms. In this article I use data on the market for software sold online to evaluate these conditions. I do not find evidence to support either one.

In particular, increasing the disclosure of an end-user license agreement does not increase the number of software shoppers that read it. Bringing the license one mouse click closer to the shopping path of purchase increases readership on the order of one in one thousand. Moreover, those few shoppers who actually read EULAs turn out to be equally likely to purchase a product *regardless* of how buyer-friendly the terms are that they read. Some of them probably clicked on it by accident, and the remainder spend, on average, less than a minute reviewing the license's dense text. While there are several possible explanations for this, the conclusion is that shoppers in my setting simply do not react to what they read.

I should note that while the context of the study is a specific market with features especially convenient for testing the effects of disclosure, and of particular regulatory interest, it is not unreasonable to conjecture that similar results may hold for other markets or in the offline context with similarly priced products. The reason is that search and access costs are so low online that if contract disclosure mattered, we should see it there.

For purposes of understanding the regulatory implications of these results, it is important to be precise. I do not provide any evidence as to whether the market for EULA terms currently suffers from a market failure, i.e., whether the terms currently offered are one-sided to a degree that buyers would be concerned if they were to understand them. That is unknowable. As I discussed, sellers could already be constrained by reputation or the fear of litigation.<sup>13</sup> I also do not show *why* consumers choose not to read contracts even when they are easily accessible. That, too, is not easily knowable, but there are reasonable candidate explanations. People might not read because the text is too complicated or hard to understand, or because it is just not worth their time to read. In either case, increasing disclosure and mandating assent (via a clickwrap or signature) is not a desirable policy choice.

The precise but important conclusion that my results support is that an oft-cited mechanism that is supposed to limit the scope for seller misbehavior, the "informed minority" or "vote with your feet" approach, is not operational in this setting. Moreover, it cannot be *made* to be operational simply through increased or mandated disclosure. Disclosure-based regulatory approaches such as those proffered by the *Principles* should be examined critically in light of the results of this paper.

Now, even if disclosure per se will result in little increase in readership or economic pressure on sellers, one might argue that it cannot hurt, so we may as well

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<sup>13</sup> Becher (2008) explains how the fear of litigation might constrain sellers.

mandate it anyway. But there are indeed costs to this approach. Mandating disclosure would increase financial costs to sellers, not just the direct cost of changing a website but the cost of lost business as a result of complicating the checkout process. It would also increase costs to buyers, who might be forced to manifest assent by clicking “I agree.” Other costs are less obvious but at least as important. As Hillman (2006) and Ben-Shahar and Schneider (2010) noted, the mere existence of a formal disclosure regime might lead courts to believe that market mechanisms indeed work, and thus to give insufficient attention to the potential for abusive terms. Similarly, once ineffective regulation is in place, it might forestall real change. Or, knowing that disclosure would guarantee enforcement yet at the same time suspecting that buyers do not read anyway, sellers may actually be inclined to offer *worse* terms than they do now. These unintended consequences must be considered seriously.

Another argument in favor of disclosure regulation is that it allows journalists, watchdog groups, and third-party intermediaries to spot onerous terms and communicate this discovery to consumers in more effective manner. If that is the case, then it might be best to make that information available to third parties more directly. For instance, the CARD Act of 2009 requires that all credit-card issuers submit their agreements to the Federal Reserve so that these can be included in a common online database.<sup>14</sup>

Other solutions to the problem of potentially abusive boilerplate are, unfortunately, more invasive than disclosure. As discussed earlier, research has shown that consumers rely on simple heuristics and a limited number of salient product attributes in making purchase decisions. For this reason, mandating brief, standardized labels summarizing key license provisions – more generally, any standard-form contract provisions – could help, to the extent that consumers are currently intimidated by typical boilerplate legalese. Ben-Shahar (2009) suggests that contracts could be given standardized letter grades by a credible and independent third party, such as *Consumer Reports*. As noted above, facilitating a market for intermediaries to provide such information could be helpful, given that none has emerged. Issacharoff (2011) recommends the creation of independent intermediaries to help discipline markets. In combination, perhaps, these approaches might induce the level of ex ante attention to fine print required for the informed-minority market mechanism to work.

Another approach would be to reduce consumers’ cost of seeking redress ex post. Some consumers might find it worthwhile to ignore fine print and to become informed about terms such as warranties or forum selection clauses only when they experience a problem. The threat of litigation can be a powerful agent in constraining abusive behavior. We may thus want to reconsider the desirability of class-action waivers, arbitration, and forum selection clauses. Of course, these recommendations move ever closer to direct regulation of terms, which is uncomfortable. It is hard enough for regulators to determine optimal standard terms in any one transaction or market setting, and even harder to codify general guidelines.

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<sup>14</sup> The agreements can be found at <http://www.federalreserve.gov/creditcardagreements/>.

In summary, we have evaluated one approach to regulating boilerplate and found it wanting. The results suggest that regulators must move beyond disclosure to provide effective consumer protection.

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