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Standardization as a Solution to the Reading Costs of Form Contracts

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Abstract

It is well-known that a monopolist cannot commit to offer a high quality contract to a consumer reading costs are positive. This paper shows that this also holds in a competitive environment with consumer heterogeneity if the contract space is unrestricted. If firms can offer standardized contracts from a finite set, however, each with a standardized name, this paper shows that, when reading costs are not too large, there exists an equilibrium in which firms offer the most efficient contracts from the set of named contracts and consumers purchase the most efficient contracts offered without incurring any reading costs.

JEL Codes: D18, D86, K12, L15

1 Introduction

An increasing number of consumer products are sold under a fairly detailed contract with the supplier. When a consumer purchases software, for example, it comes along with a license agreement that often limits what the consumer can do with it. The contract may also include or disclaim warranties, specify where and how legal disputes must be brought, describe the return policy, and/or detail the customer support available. If the product is purchased at the store, the terms of the contract may be on available on the outside of the box or only once the box has been opened after purchase. If the product is purchased online, typically the consumer must click "I agree" after scrolling through contractual terms of varying length. In the vast majority of the cases, consumers do not read all (or even any) of the terms that they are agreeing to by purchasing or using the product.

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The extent to which the terms in these form contracts\(^1\) should be enforceable has been and continues to be the subject of considerable academic and judicial debate. On the one hand, some argue that as long as the consumer has the opportunity to read the contract before purchase (or the opportunity to return the good after purchase if she only has the opportunity to read the terms after purchase) the contract should be enforceable. The argument being that the ability to read the contract will prevent firms from including inefficient or unfair terms. On the other hand, some scholars and courts acknowledge that very consumers actually do read these contracts, thus there is little likelihood that including inefficient or unfair terms in the fine print will significantly reduce demand.

The economics literature on this issue, while limited, has also been divided. Schwartz and Wilde [1983] show that if there are a sufficient number of consumers whose cost of reading these contracts is zero, they will deter firms from offering inefficient contracts. Katz [1990], however, shows that if all consumers have positive reading costs, then no consumers will ever read these contracts and, as a result, the firms will offer only the most pro-firm contracts allowed by law. Because consumers understand this, the inefficiency of the contract actually ends up hurting the firm because it reduces the price the consumers are willing to pay for the good.

In a recent paper, Che and Choi [2009] argue that Katz’s result depends both the lack of competition between firms and the fact that all consumers are identical. They use a model in which some consumers care about the terms in the contract and others do not. Furthermore, they assume that there is competition between firms selling the good along with the contract. They show that in a model in which firms can offer only two contracts (a high quality contract that appeals to those consumers who care about quality and a low quality contract for those who do not), there is a mixed strategy equilibrium in which some firms offer the high quality contract with positive probability. Furthermore, they show that as reading costs approach zero, the equilibrium approaches the first best.

In this paper, I both challenge the robustness of the Che and Choi [2009] result and build upon the insight that drives it. First, I show that the Che and Choi result that firms offer a high quality contract with positive probability that some consumer read is driven by the fact that firms can only offer two contracts. I show that if there is no restriction on the contract space, so that firms can offer a contract of any quality level, then the Katz [1990] result re-emerges: no consumers read any contracts and firms only offer the lowest quality level. To see why this is the case, recall what drives the Katz result: if firms expect consumers to read their contract with positive probability, they will choose a contract quality level such that once a consumer has read and discovered the quality level in the contract, that consumer will be indifferent between purchasing the good with this contract or not. This is true whether the alternative to purchase is to do without, buy another contract without

\(^1\)These contracts are often called standard form contracts. I will not use that term so that these contracts are not confused with what I refer to as standardized contracts in this paper.
because reading to determining quality is costly, this means that while the consumer is indifferent between purchase and not after reading the contract, she wishes she had not sunk the reading cost in the first place. Anticipating this, the consumer will not read any contract.

Che and Choi [2009] avoid this equilibrium by constraining the possible contracts. Because the firm can only offer two possible contracts that have a discreet difference in quality between them, the consumer knows before reading any contract that it will either be contract $H$ or contract $L$. Thus, the firm can commit to offer the consumer some surplus after reading the contract provided the contract turns out to be contract $H$ by choosing a low enough price. If the contract turns out to be contract $L$, then the consumer will not buy the contract. Thus, if the consumer reads the contract, the firm will make a sale (and earn profits) provided it offers $H$ but will not if it offers $L$. At the same time, the consumer has a non-zero payoff (gross of reading costs) from reading a contract as long as the contract is $H$ with positive probability. Thus, it is possible for a firm to offer contract $H$ with sufficient probability that the consumer who values quality will read it with positive probability provided the price is low enough. And, if the consumer will read the contract with high enough probability, the firm can be indifferent between offering $H$ and $L$ because it will lose sales when the consumer reads the contract if it offers $L$.

Notice, however, that what makes this possible is that the firm can offer a contract at a price $p$ that ensures that either the reading customer receives positive surplus or the customer does not purchase from this firm. If the contract space is continuous, however, that is not possible. The firm offering the contract at price $p$ will offer neither $H$ nor $L$ if it believes that consumers will read the contract. Instead, it will offer $H - x$ where $x$ is such that the consumer who reads is indifferent between purchasing and not given price $p$. Since the consumer will anticipate that, she will not read and we are back in the Katz equilibrium. We prove this formally, thus, extending the Katz [1990] result to the case where there are heterogenous consumers and competition between firms.

Che and Choi’s result, while not robust to a continuous contract space, does contain an important insight. It suggests that legal restrictions on the contract space might be desirable to enable firms to offer high quality contracts in the presence of positive reading costs. This paper builds on that insight by showing that having a finite set of standardized contracts, each of which has a specific, standardized, name can enable firms to offer high quality contracts in the presence of reading costs. In fact, the benefits of standardization are such that there exists an equilibrium in which firms offer high quality contracts with probability one and consumers do not read contracts on the equilibrium path. This occurs even if the names themselves tell the consumer nothing about the details of the contract. For example, the contracts could be labeled the Orange contract, the Blue contract, etc... The reason is that the
names enable the consumer to observe (without incurring reading costs) whether two different firms are offering the same contract or not.\(^2\) We can obtain an equilibrium in which both firms offer the efficient contract for a given consumer type because if one firm deviates, the consumer can observe the deviation—because all firms are no longer offering a contract with the same name. Upon seeing the deviation, the consumer does read at least one contract as long as the firms are close enough competitors (horizontal product differentiation is small enough) and reading costs are not too large. This threat of reading off the equilibrium path is what creates the efficient equilibrium without reading costs. Thus, this equilibrium requires that reading costs are not too high\(^3\) so that enough consumers read to make this deviation unprofitable.

It is worth noting that for contracts regarding the international sale of goods, a set of standardized contracts does exist. INCOTERMS 2000 provides a set of three letter labels, like "EXW" for example, that refer to a standardized contract. These contracts were developed by the International Chamber of Commerce. Businesses negotiating sales under INCOTERMS will simply incorporate the terms of a particular three letter contract. Then, these standardized terms will govern their contractual relationship.\(^4\)

In addition to building on the work of Schwartz and Wilde [1983], Katz [1990], and Che and Choi [2009], this paper is also related to other work on contract reading costs and search costs. D’Agostino and Seidmann [2009] also consider a model with a discrete contract space and reading costs to obtain a mixed strategy equilibrium like Che and Choi [2009]. They also allow for different market structures and the possibility of simple contracts with only a price term. Cooper and Ross [1984] analyze how price can be used to signal quality in a model with no independent means of verifying quality for those who are initially uninformed. The literature on competition with search costs began with Diamond [1971] who showed that search costs can create market power even in the presence of substantial competition.\(^5\) This literature assumes a positive search cost to observe the price of a product from a given firm and then purchase it. In contrast, we assume (as is typical in the literature on contract reading costs) that price can be costlessly observed, thus consumers who choose to purchase without reading the terms of a contract can do so without incurring a search cost. This assumption is not that far off for e-commerce.

Legal scholars have been divided on whether the importance of disclosure of terms in consumer contracts is important or will likely lead to efficient provision of contract

\(^2\)This is why it is important that the names are standardized. A consumer may not know what is in the Orange contract, but she knows that the Orange contract from firm A is identical to the Orange contract from firm B.

\(^3\)Naturally, this condition on reading costs assumes that consumers can understand the terms if they read them.

\(^4\)I thank Alexander Morell for pointing this out.

\(^5\)Other important papers in this literature include Varian [1980], Stahl II [1989], Robert and Stahl II [1993], and Anderson and Renault [1999]. See, also, Schwartz [2008] for a model of exogenous search with sophisticated and naive consumers.
Some argue that providing the opportunity to read the terms prior to contract is critical for consent to have any meaning (see, for example, Macaulay [2004] and Braucher [2004]). Others argue that the opportunity to read terms provides consumers with little actual benefit given that consumers almost never actually do read the terms (see, for example, Gillette [2004] and Ben-Shahar [2009]). Recently, there has begun an empirical literature on disclosure of contract terms. Marotta-Wurgler [2008, 2009] examines the quality of software license agreements. She finds no significant difference in quality between the contracts in which the sellers disclose the terms in advance and those who do not.

The next section outlines the model. Section three analyzes the case where firms have an unrestricted contract space and freedom to offer any contract. Section four analyzes the case where there is a finite menu of contracts that are allowed and these contracts all have standardized names. Section five informally discusses the prospect for the standardization solution to arise without government intervention. Section six presents some concluding thoughts and includes some discussion of the enforcement issues involved with standardized contracts.

2 Model

There are two firms in the market, A and B. They are located at points zero and one of a linear city. There are two types of consumers, picky and carefree. Each type of consumer (there is a unit mass of each type) is distributed uniformly over the unit interval. Each firm offers an identical good for sale. The firms offer the good along with a contract which specifies things like the warranty coverage, restrictions on use, resale, etc... One possible contract is the 0 contract, which has the minimum level of pro-consumer terms. They can also choose to offer contracts with more pro-consumer terms. I will refer to an arbitrary contract of this type as the $\theta$ contract, where $\theta$ (chosen by the firm) is the level of pro-consumer terms in the contract. The unit cost of offering the good with the 0 contract is zero. The unit cost of offering the good with contract $\theta$ is $\theta^2/2$.

A carefree consumer does not care about the terms of the contract. A carefree consumer located at point $x$ in the linear city receives a net payoff of buying from firm $A$ of $V - tx - p_A^j$ where $V$ is the gross value of the good, $t$ is the transportation costs (the measure of product differentiation) from purchasing from firm $A$, and $p_A^j$ is the price $A$ charges for the good with contract $j \in \{0, \theta\}$. A carefree consumer located at point $x$ in the linear city receives a net payoff of buying from firm $B$ of $V - (1 - x)t - p_B^j$. We assume throughout that $V$ is large enough that all buyers purchase a good, under some contract, from either $A$ or $B$.

A picky consumer does care about the terms of the contract. A picky consumer located at point $x$ in the linear city receives a net payoff of buying from firm $A$ with contract $j$ of $V + j - tx - p_A^j$. Thus, if the picky consumer buys the contract of type $\theta$ then she receives added utility of $\theta$, while she receives no added utility from
a contract of type 0. A picky consumer located at point $x$ in the linear city receives
a net payoff of buying from firm $B$ with contract $j$ of $V + j - (1 - x)t - p^*_B$. The
payoff to both consumers from not buying anything is normalized to zero.

To determine a contract’s type, the consumer must read its terms. The cost of
reading the terms of a contract is $r$. Since carefree consumers do not care about the
contract’s terms, they will never read. Picky consumers may read if the equilibrium
is not fully revealing. Moreover, they may have a credible threat to read the terms
of a contract off the equilibrium path. Whether they do or not will prove important
in determining if there can be a fully revealing (or, even a partially revealing) equi-
librium. As we will see in the next section, with complete contractual freedom, there
is no credible threat to read the terms of a contract. With standardized contracts,
on the other hand, this threat can be credible.

3 Complete contractual freedom

In this section, I consider the case in which there are no restrictions on what contracts
a firm can offer. Furthermore, the contracts have no standardized names. As we will
see, without any restrictions on the contract space, firms always have the incentive
to offer the minimum level of quality for which a consumer will purchase the good at
the given price after she reads the terms. This eliminates any equilibrium in which
the firms offer any contract other than the 0 contract. I prove this in stages, first
showing that neither firm offers a contract with greater than the minimum quality
with probability one. Then I show that neither firm can offer a contract with greater
than the minimum quality with positive probability.

**Lemma 1** There is no equilibrium in which one or both firms offer a contract at
price some price $p^\theta$ in which the terms in the contract provide value $\theta > 0$ with
probability one that any consumers purchase with positive probability.

Proof. Assume that in equilibrium one firm offered a contract at a price $p^\theta$ which
had $\theta > 0$ with probability one. Then consumers could infer without reading it that
the contract priced at $p^\theta$ was the $\theta$ contract. Thus, if any consumer purchased it,
she would do so without reading it. Given this, the firm could increase its profit by
reducing $\theta$. Q.E.D.

This lemma shows that there is no pure strategy equilibrium in which a firm offers
a non-zero $\theta$ contract. The next lemma shows that a non-zero $\theta$ contract cannot be
part of a mixed strategy equilibrium either.

**Lemma 2** There is no equilibrium in which one or both firms offer a contract at
price some price $p^\theta$ in which the terms in the contract provide value $\theta > 0$ with
positive probability that any consumers purchase with positive probability.
Proof. At least some consumers must read this contract to induce $\theta > 0$. Let $\{\theta_1, \ldots, \theta_n\}$ be the $n$ possible values of $\theta$ when the firm (say it is $A$) offers a price of $p^\theta$ and let $\{q_1, \ldots, q_n\}$ be the associated probabilities. Without loss of generality, say $\theta_1 < \theta_2 < \ldots < \theta_n$. Let $m(x) \leq n$ be such that $\theta_{m(x)}$ is the lowest quality that a picky consumer at $x$ will buy the the contract priced at $p^\theta$ after reading it. Let $\bar{x}$ be the picky consumer with the highest value for $x$ that reads this contract. Her expected utility from this contract prior to reading it is $X = \sum_{i=m(\bar{x})}^{n} q_i(V + \theta_i - t\bar{x} - p^\theta) - r$. If upon reading the contract she sees it has $\theta_k \geq \theta_{m(\bar{x})}$, then her utility from purchasing it is $V + \theta_k - t\bar{x} - p^\theta$. For $k > m(\bar{x})$, the firm could have offered a worse contract and still induced purchase from this consumer and, since this is the consumer furthest from $A$, all other consumers who purchase this contract. Since this is not observable ex ante, it cannot affect the decision to read. Hence, in equilibrium, $A$ cannot offer a level of $\theta$ that exceeds $\theta_{m(\bar{x})}$. One can now write this consumer’s expected utility from reading the contract as $q_{m(\bar{x})}(V + \theta_{m(\bar{x})} - t\bar{x} - p^\theta) - r$ (since with probability $1 - q_{m(\bar{x})}$ the consumer will see the quality is lower and not buy the product). After reading the contract and discovering that $\theta = \theta_{m(\bar{x})}$, this consumer’s utility from purchase is $V + \theta_{m(\bar{x})} - t\bar{x} - p^\theta$. Clearly, the utility from purchase after discovering $\theta = \theta_{m(\bar{x})}$ exceeds the expected utility from reading. Hence, if $\theta_{m(\bar{x})}$ was the lowest level of $\theta$ for which $\bar{x}$ would buy the contract priced at $p^\theta$ from $A$ after reading it, her ex ante utility from reading it must be such that she does not want to read the contract. This contradicts the assumption that $\bar{x}$ is the picky consumer with the highest value for $x$ that reads this contract. Thus, no consumer can read the contract, so no firm will offer a contract with $\theta > 0$. Q.E.D.

Thus, I have now generalized Katz’s [1990] result that there is no equilibrium with positive reading costs in which a firm offers quality above the minimal level to situations in which there is competition and multiple consumer types. This is summarized in the following proposition.

**Proposition 1** In equilibrium, neither firm $A$ nor $B$ will offer a contract that has $\theta > 0$ that any consumers will purchase.

Proof. This follows from the previous two lemmas.

What drives the result in proposition 1 is the same commitment problem that is present in Katz [1990]. Firms would like to be able to commit not to exploit the consumer’s sunk reading cost, but they cannot do so. The firms are always tempted to lower quality so that the consumer that is furthest from them that reads the contract is indifferent between buying and not after reading. But, if that is the case, then this consumer will not read the contract given positive reading costs. Thus, there can be no equilibrium in which any consumer reads a contract. Since firms can anticipate this, they have no incentive to provide anything more than the minimal quality level. Unfortunately for the firms, however, picky consumers can anticipate this, reducing their willingness to pay.
While Proposition 1 is proved in the context of just two firms, it is clear that adding more firms will not change the result. The proof of the Proposition makes no use of the fact that there is only one other firm. Given that, why is the result so different from the result in Che and Choi [2009] in which firms can offer high quality contracts with positive probability (although not with probability one) even if there is a duty to read? The reason is that there are only two possible contracts in that paper, high and low quality. So, if a firm offers a contract at the high quality price, this contract either is a high quality or a low quality contract. If the firm offers the low quality contract, then consumers who read the contract will not buy it—providing an incentive to offer high quality. If there were a continuum of possible quality levels, however, then if the firm offered the contract at a price which made it profitable for consumers to read the contract to determine if it were high quality, the firm could deviate by offering a slightly worse contract that consumers would still want to buy after they sunk the reading costs. This is essentially the argument in the proof of Lemma 2 above. This argument does not undermilde the equilibrium in Che and Choi [2009] because they only allow two quality levels.

That said, the fact that one can get positive quality with positive probability in the Che and Choi paper suggests that there may be a role for limits on what contracts firms can offer. The next section analyzes this. In order to obtain an equilibrium in which firms offer positive quality with probability one, however, the next section considers not only limits on the number of contracts but requires these contracts to have standardized names.

4 Standardized contracts

I now consider how the existence of standardized contracts can solve this problem. By standardized contracts, suppose that there are an exogenous set of $n$ contracts with pre-defined names that both firms can offer. Let this set of contracts be \( \{\theta_1, \ldots, \theta_n\} \), with \( \theta_1 < \ldots < \theta_n \). Firms can offer other contracts, but they cannot offer a contract with the name for any contract \( \theta_i \) unless the terms for that contract correspond to those for \( \theta_i \).\(^6\) Consumers do not know the values of \( \theta \), nor do they know the ordinal relationship between the quality levels provided by each contract. This could be because the contract names themselves are completely uninformative (say they are called the blue, red, orange, etc... contracts) or because consumers do not believe the organization that labels the contracts has any knowledge about consumer preferences. Nonetheless, as the next proposition shows, there exists an equilibrium in which the firms only offer the two contracts that are most efficient (given the set of allowable contracts) for each consumer type and each firm prices at its full information level.

**Proposition 2** Let \( \{\theta_1, \ldots, \theta_n\} \) be the set of standardized contracts. Furthermore, assume that if any firm that offers a contract \( \theta_i \in \{\theta_1, \ldots, \theta_n\} \), then it must offer

\(^6\)I discuss enforcement issues in the conclusion.
a that contract with a pre-specified name. Then, if reading costs are not too large \( r \leq \{(\theta^* - \theta_1)[\theta^*^2 - (\theta_1)^2 + (2 - \theta^* - \theta_1)]\}/2(2t + \theta^*^2 - (\theta_1)^2) \), there exists a perfect bayesian equilibrium in which both firms offer only contracts 0 and \( \theta^* \), where \( \theta^* \) is the \( \theta_i \) closest to 1 (the most efficient contract for picky consumers), and price these contracts at their full information prices, \( t \) and \( \theta^*^2/2 + t \). In this equilibrium, no consumers read the contracts and all carefree consumers purchase contract 0 from the firm closest to them and all picky consumers purchase contract \( \theta^* \) from the firm closest to them. If picky consumers see that both firms are offering a given named contract at the same price, they believe it is being offered at its full information price. If they see a firm offer a contract outside of \( \{\theta_1, \ldots, \theta_n\} \), then they believe it is the contract 0. If picky consumers see only one firm offering a given named contract, they believe it has the lowest level of \( \theta \) of any contract which is not otherwise being offered, unless it is offered at \( \theta^*^2/2 + t \), in which case they believe it is contract \( \theta^* \). If there are \( m > 1 \) named contracts being offered (at prices other than \( \theta^*^2/2 + t \)) which only one firm offers, then picky consumers believe these contracts are equally likely to be the \( m \) contracts with the lowest levels of \( \theta \) possible. If only one firm offers \( m > 1 \) contracts at a price of \( \theta^*^2/2 + t \), then picky consumers believe that one of these contracts is \( \theta^* \) and the rest are the \( m \) contracts with the lowest levels of \( \theta \) possible. If one firm is offering only one contract at \( \theta^*^2/2 + t \) while the other firm is offering more than one contract at this price, then picky consumers believe the contract from the firm offering only one contract at \( \theta^*^2/2 + t \) is contract \( \theta^* \) and that each contract of the other firm is equally likely to be any of the remaining \( m - 1 \) contracts with the lowest possible levels of \( \theta \). If both firms offer multiple contracts (for a total of \( m \)) at \( \theta^*^2/2 + t \), then picky consumers believe that one of these contracts is \( \theta^* \) and that each other contract is equally likely to be any of the remaining \( m - 1 \) contracts with the lowest possible levels of \( \theta \).

Proof. Say that firm A offers contracts 0 and \( \theta^* \) at prices \( t \) and \( \theta^*^2/2 + t \). It follows from the standard linear city model (see Tirole 1988, for example) that these are the full information Nash equilibrium prices. Since carefree consumers will buy from the firm that offers the lowest price, firm B maximizes its profits from carefree consumers by selling them 0. Thus, firm B will offer 0 unless not doing so increases its profits from picky consumers. If firm B offers some other contract besides 0 and \( \theta^* \) then picky consumers will believe it is \( \theta_1 \) unless it is priced at \( p_2 = \theta^*^2/2 + t \).

First, consider \( p_2 \neq \theta^*^2/2 + t \). Firm B can do no better than to offer \( \theta_1 \) (any other contract will either cost more and obtain no more demand or will be correctly perceived to be 0 which will be less attractive to picky consumers). If \( \theta_1 = \theta^* \), then the proof is complete. If \( \theta_1 < \theta^* \), then firm B’s profits from picky consumers are given by \( (p_2 - (\theta_1)^2/2)(1 - [(2 - \theta^*)\theta^* - 2(\theta_1 - p_2)]/4t) \) since the indifferent picky consumer is located at \( [(2 - \theta^*)\theta^* - 2(\theta_1 - p_2)]/4t \). The profit maximizing \( p_2 \) is \( t + (\theta^*^2 - 2\theta^* + (\theta_1)^2 + 2\theta_1)/4 \). So, the maximized profit from selling \( \theta_1 \) is
(4t + (θ₂ - θ₁)(2 - θ² - θ₁))^2 / 32t. Since θ² is closer to 1 than is θ₁, this is greater
with θ₂ = θ² than with any smaller θ₁. Thus, firm B maximizes its profits from picky
consumers from also offering θ² at θ²² / 2 + t. Given this, it can do no better than
maximize its profits from carefree consumers by offering 0 at t. Since no consumers
will buy any other contracts, there is no reason for firm B to offer any other contracts.
Given these strategies, the beliefs specified are rational, and given those beliefs the
purchase and reading decisions of all consumer types is optimal.

Next, consider p₂ = θ²² / 2 + t. Call the contract offered by B at this price θ_B and
call the θ² contract that A offers contract θ_A. Then consumers will believe that θ_A
and θ_B are equally likely to be contract θ² or contract θ₁. A picky consumer at point
x will obtain an expected net payoff of buying θ_A without reading either contract of
V + (θ² + θ₁)/2 - tx - θ²² / 2 - t. Her payoff from buying θ_B without reading either
contract of V + (θ² + θ₁)/2 - t(1 - x) - θ²² / 2 - t. If she does not read either contract,
then a consumer will purchase θ_A (θ_B) if and only if x ≤ 1/2. If a consumer reads
one contract, then she will know the contents of both contracts (given her beliefs
that one is θ² and one is θ₁). Thus, a consumer at x has an expected net payoff
after reading one contract of V + θ² - t² / 2 - θ²² / 2 - t - r (assuming she buys the
θ² contract after reading, which must be true in equilibrium if she reads). Thus, a
consumer at x ≤ 1/2 will read one contract if and only if (θ² - θ₁)/2 ≥ r + t(1/2 - x) or
x ≥ 1/2 - (θ² - θ₁ - 2r)/2t. Similarly, a consumer x > 1/2 will read one contract if and
only if (θ² - θ₁)/2 ≥ r + t(x - 1/2) or x ≤ 1/2 + (θ² - θ₁ - 2r)/2t. Thus, B’s profit from
offering θ_B = θ² at θ²² / 2 + t is (θ²² / 2 + t - θ²² / 2)(1/2 - (θ² - θ₁ - 2r)/2t). This is clearly
largest for θ_B = θ₁. B’s profit from offering θ² at θ²² / 2 + t is t/2. Thus, it prefers to
offer θ² at θ²² / 2 + t if r ≤ ((θ² - θ₁)[θ²² - (θ₁)² + t(2 - θ² - θ₁)] / 2(2t + θ²² - (θ₁)²).

B will not offer m > 1 contracts at θ²² / 2 + t, since then consumers would believe
that A’s contract is θ² and its contracts are contracts θ₁, . . . , θ_m. Since these are the
cheapest m contracts for B to provide, B cannot do better than to offer those contracts
if consumers do not read its contracts. Since θ² is the most efficient contract for picky
consumers, B would earn more profit offering only θ² than the average contract of
θ₁, . . . , θ_m, which is how its m contracts are viewed by non-reading consumers. The
only picky consumers who might read B’s contracts are those located strictly above
1/2 as long as r > 0. If r = 0, B would still earn greater profit from θ², since this is the
most efficient contract for all consumers. Positive reading costs can only reduce
demand for B’s contracts further. Thus, B cannot benefit from offering m > 1
contracts at θ²² / 2 + t. Q.E.D.

Why can firms credibly commit to offer a high quality contract when contracts
are standardized, whereas they cannot without standarized contracts? The reason
is that standardization facilitates the comparison of contracts from different firms
without having to read both contracts. If both firms are offering the blue contract,
for example, then, although consumers may not know what is in the blue contract,
you know that the terms offered by both firms are the same. Thus, consumers can
base their purchase decisions on price or other firm characteristics without having
to read the contracts of either firm. One firm cannot deviate from this equilibrium without the consumer being aware (without having to read the contracts) that there has been a deviation. This is not possible if contracts do not have standard names.

Thus, if picky consumers expect both firms to offer the best contract for them at the full information price, if the consumer does not see two contracts with the same name at that price, then she knows that one firm has deviated. If reading costs are not too large, this will induce consumers who do not have a very strong preference for one firm relative to the other to read at least one contract. If consumers believe that at least one firm has offered the best contract, than the deviating firm will only get demand from those consumers who have a very strong preference for it. If reading costs are low, this reduction in demand will be large enough to more than compensate for the lower cost of supplying the cheaper contract to these consumers.

What exactly are low reading costs? The condition in the proposition, \( r \leq \{(\theta^* - \theta_1)(\theta^{r2} - \theta^2_1 + t(2 - \theta^* - \theta_1))/2(2t + \theta^{r2} - \theta^2_1)\} \leq +4(1 + 2t)/2(2t + \theta^{r2} - \theta^2_1), \) indicates it depends on both the quality of the best contract for picky consumers, the quality of the second worst contract (the worst one being the contract for the carefree consumers), and the degree of product differentiation (represented by the transport cost parameter \( t \)). The following corollary sheds some more light on this condition and the factors that make it easier to satisfy.

**Corollary** For \( \theta^* \leq 1, \) the maximum level of reading cost that satisfies the condition for Proposition 2 is decreasing in \( \theta_1, \) increasing in \( \theta^*, \) and decreasing in \( t. \) As \( \theta_1 \to 0 \) and \( \theta^* \to 1, \) the maximum reading cost approaches \((1 + t)/(2 + 4t) \in (1/4, 1/2).\)

**Proof.** We can rewrite the maximum reading cost as \([((1 - \theta_1)^2 - (1 - \theta^*)^2)/4 + (\theta^* - \theta_1)^2/4(\theta^{r2} - \theta^2_1 + 2t). \) The term in square brackets is clearly decreasing in \( \theta_1, \) increasing in \( \theta^*, \) and independent of \( t \) for \( \theta^* \leq 1. \) The second term is clearly decreasing in \( t. \) Differentiating the second term with respect to \( \theta_1 \) gives \(-\theta_1(\theta^{r2} - \theta^2_1)(\theta^{r2} - \theta^2_1 + 4t)/2(\theta^{r2} - \theta^2_1 + 2t) < 0. \) Differentiating the second term with respect to \( \theta^* \) gives \( \theta^*(\theta^* - \theta^2_1)(\theta^{r2} - \theta^2_1 + 4t)/2(\theta^* - \theta^2_1 + 2t) > 0. \) Evaluating \( \{(\theta^* - \theta_1)(\theta^{r2} - \theta^2_1 + t(2 - \theta^* - \theta_1))/2(2t + \theta^{r2} - \theta^2_1)\}\) at \( \theta_1 = 0 \) and \( \theta^* = 1 \) gives \((1 + t)/(2 + 4t) \) which is \(1/2\) at \( t = 0 \) approaches \(1/4\) as \( t \to \infty. \) Q.E.D.

The corollary shows that it will be easier to satisfy the reading cost condition that is necessary for the equilibrium in Proposition 2 if the best deviating contract is as bad as possible while the best contract is no lower than the efficient level. It also indicates that more competition, as reflected in less product differentiation, makes easier to meet the reading cost condition. Furthermore, it shows that reading costs can be a substantial fraction of the value provided by the optimal contract and still the fully revealing equilibrium is possible. That is, if \( \theta_1 \) and \( \theta^* \) are chosen well, the requirement that reading costs must be not too large is not that severe a requirement.

Of course, Proposition 2 only proves that there is an equilibrium that involves firms offering, and consumers purchasing, the best contracts for each type of con-
sumer without incurring any reading costs. It does not prove that this is the unique equilibrium. There could also be equilibria like the one in Proposition 2 in which firms offer a different contract from $\theta^*$ at its full information price. Interestingly, these other equilibria for $\theta$ must be much lower than $\theta^*$, because then the incentive to read when one firm deviates is quite small. It is not possible to have an equilibrium where firms both offer contracts close to $\theta^*$ (if $\theta^*$ is substantially above the minimum contract), since then the incentive to read is great and a firm could benefit from deviating by offering $\theta^*$. The firms are indifferent between these different equilibria since they all involve the same profit for the firm as long the value for these inferior contracts is large enough that everyone buys at least one contract. In a model without unit demands, however, firm profit would be greater when selling the efficient contract than selling some less efficient one.

It is worth noting that to get out of the unique bad equilibrium that Katz [1990] found, one needs both some competition and standardization. Proposition 1 shows that competition alone does not solve the contract if there are a continuum of possible contracts without standardized names. But, standardization alone also will not solve the problem. What makes the equilibrium in Proposition 2 work is that deviation from the equilibrium is observable at no cost because there is another firm that has not deviated. If there were only one firm, then the consumer could not tell when this firm offered the "blue" contract, whether it was offering the efficient contract or not without reading the terms.

5 Will standardized contracts arise naturally?

First, I consider the possibility of standardized contracts without coordination. Then I examine standardized contracts with coordination. If one does not allow coordination, then all that is different in this section is that I allow a firm to offer the contract $\theta_{-j}$, the $\theta$ contract offered by the other firm. Consider, for example the case where $B$ offers $A$'s $\theta$ contract. By assuming no coordination, I mean that $B$ does not know what the terms are in $\theta$ before a customer brings the contract to $B$. One can imagine the case where $\theta$ might change easily, so $B$ is in the same position as customers are in. $B$ has two additional options. First, it can set a price $p^0_B$ for $A$'s contract $\theta$ prior to reading it. Or, it can read the contract and then make an price offer. If $B$ sets its price in advance it does not change the argument in the prior lemma that shows that $A$ will never offer $\theta > 0$. This is because $B$’s $\theta$ is the same as $A$’s, so reducing $\theta$ does not cause $A$ to lose customers to $B$.

Instead, imagine that a customer brings contract $\theta$ to $B$, $B$ reads it at some cost (and the delay imposes some cost on the customer as well). In this case, since one is imagining individual contracting, we are somewhat out of the original model of set prices. This suggests that this isn’t possible in many industries. If we allow for this, however, then once $B$ has read the contract, it need only offer a price to this consumer that gives it, ex post, slightly more utility than it would get from buying
from $A$. As long as there is some delay cost associated with bringing the contract to $B$ and asking for a quote, the consumer’s ex ante utility from doing so will be less than from buying from $A$.

One might think that if $B$ could commit to non-discrimination, one could solve this problem. After all, it is the possibility of individualized pricing that enables it to just undercut $A$ for each consumer. Even a credible commitment to non-discrimination, however, would not solve the problem because of an unraveling problem. For any given set price $p_B^\theta$ that $B$ offers after reading this contract, there will be some picky consumer $x$ whose utility gain from going to $B$ is less than her delay cost. This consumer will choose not to go to $B$. Since $B$ can anticipate this, this $p_B^\theta$ could not be optimal because given those who go to $B$, all prefer to buy from $B$ after delay. Of course, this holds for any $p_B^\theta$, so no consumers will go to $B$ even with a non-discrimination commitment.

If firms can coordinate on the $\theta$ contract they can offer, but there is still no outside regulation of the contract, then in the linear city model the firms are indifferent as to the value of $\theta$. The reason is that with known equal quality, the equilibrium price (as long as quality is high enough that everyone buys) is $\theta^2/2 + t$ (cost plus the transport cost parameter). Since everyone buys, demand is fixed and the margin is fixed at $t$. In this equilibrium, notice that price is fully revealing. Moreover, since quality is high enough that everyone buys, quality doesn’t affect demand (since it is equal). Thus, this will continue to be the equilibrium where $\theta$ is private information to the firms but the consumers know that $\theta$ is equal across firms. As a result, in the first stage in which firms coordinate on $\theta$ (but not on price), the firms are indifferent as to the level of $\theta$. So, while an efficient level of $\theta$ is possible, so is any other level of $\theta$. Also, notice that since quality is identical across firms and price is fully revealing, there is no reason for consumers to read the contracts.

Notice, however, that the linear city model is special in that the total level of demand is independent of $\theta$. In a more general model, an individual picky consumer’s level of demand would depend on its perception of quality. If the firm’s played a mixed strategy in choosing $\theta$, this could provide some incentive to read the contracts. Firms might also be able to signal quality through price. Price competition between the firms, however, might make signaling more difficult. Furthermore, there cannot be an equilibrium in which the firms play a pure strategy of coordinating on a contract of high quality that stimulates greater demand. If they did this, then consumers would not need to read the contract, they would simply infer the quality was high. In which case, it would be in the firms’ interest to coordinate on a lower quality level. A detailed analysis of this case is beyond the scope of this paper.

Lastly, it is worth noting that antitrust concerns (and laws) might make firm coordination on the contract both problematic and illegal. To the extent that allowing this coordination might facilitate other forms of collusion, the competition authorities might be reluctant to allow it. This also suggests some governmental imposed standardization might be necessary.
6 Conclusion

This paper reconsiders the problem of complex form contracts in a business to consumer setting. Such contracts are ubiquitous and are of special importance in e-commerce where consumers often must manifest agreement to a long list of terms prior to purchasing a product. In a world of no restrictions on the possible contracts the firms can offer, I find that consumer heterogeneity and competition do not make an equilibrium in which firms offer high quality contracts possible. Thus, I extend the result of Katz [1990] to the case of consumer heterogeneity and competition between firms. In the process, I show that the Che and Choi [2009] result that there does exist an equilibrium in which firms offer a high quality contract with positive probability is driven by their restriction on the contract space.

That said, the Che and Choi result motivates the encouraging result in the paper. I show that if firms are required to only offer contracts from a set of standardized contracts all of which have pre-defined names, then, provided reading costs are not too large, there does exist an equilibrium in which firms offer the most efficient contract for each consumer type. Furthermore, unlike the Che and Choi equilibrium, firms offer these contracts with probability one, all consumers purchase the best contract for their type, and no consumers have to expend costs reading the contracts. Competition, as well as standardization, is important in creating this equilibrium. The more competitive the market, the higher the maximum reading cost for which this equilibrium can exist.

While we do see such standardization in some industries (rental contracts, for example, often are based on a standard contract provided by a local trade group), it does not exist in very many industries. This paper has suggested reasons why, despite its efficiency, we have not seen widespread use of standardization. This suggests that some governmental push towards standardization might be a desirable intervention to solve the problem of reading costs in standard form contracts. That said, this raises the question of who should be the one to determine the terms in the standardized contracts. Providing a definitive answer to this question is beyond the scope of the paper, however, it could be done by the government, and industry body, or a non-governmental organization, such as the American Law Institute. Possibly, the ideal solution would be to receive input from some combination of these institutions and possibly others.

Of course, one still might wonder how one enforces this standardization. If both firms offer the orange contract, for example, what prevents one firm from putting terms in the actual contract that deviate from what is supposed to be the orange contract? Even without government-imposed standardization, this could be classified as fraud. Since standardization would be used in markets where firms sell to many consumers (otherwise, form contracts are much less likely to be prevalent), class action attorneys would have an incentive to police this fraud. To the extent this enforcement mechanism is imperfect, however, this provides a further rationale for government-
imposed standardization. In that case, there could be statutorily imposed penalties (which could be quite large). To incentivize private enforcement, some fraction of these penalties could go to the person who discovers the firm that offers a standardized contract without the standardized terms. Large enough penalties with sufficient enforcement incentives should deter most firms from violating the standardization provisions.
References


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