Eur J Law Econ (2007) 24:119–136
DOI 10.1007/s10657-007-9030-x

Economic analysis of standard form contracts: the monopoly case

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Published online: 22 September 2007

Abstract The terms of standard form contracts are rarely known to consumers. Still, it is often argued that few consumers who read and understand the contract can assure that it does not include sub-optimal terms. According to this argument, if the proportion of informed consumers is sufficiently high, they can secure an optimal set of contract terms to the benefit of all other consumers. This paper shows that when suppliers can adjust the content of the form contract, the few reading consumers cannot correct the market failure. In fact, unless all consumers read and understand the form contract, a monopoly is always encouraged to offer sub-optimal terms, i.e., terms that benefit her but at a higher cost to the consumers.

Keywords Standard form contracts

JEL Classification K12 · D82

1 Introduction

The decades-long legal debate over the qualities and drawbacks of standard form contracts is far from conclusion.[1] At first, commentators concentrated on the unequal bargaining power and the inability of consumers to bargain over the terms.[2]

[1] The most cited early writings discussing form contracts are Karl N. Llewellyn, *Book Review*, 52 Harv. L. Rev. 700 (1939), Friedrich Kessler, *Contracts of Adhesion-Some Thoughts about Freedom of Contract*, 43 Colum. L. Rev. 629 (1943). However, the issue of standardizing relationships was addressed previously by Nathan Isaacs, *The Standardizing of Contracts* 27 Yale L.J. 34 (1917).

[2] See Llewellyn, *supra* note 1, at 701, Kesler, *supra* note 1, at 632.

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However, it was later shown that, other things being equal, sellers prefer to extract their bargaining advantages by increasing the price rather than reducing the value of the contract to the consumers (see Posner 1992). Thus, even a monopoly would allocate the rights and risks in the contract efficiently. As a result, the emphasis has shifted to the information problem.

Consumers often sign a contract without reading it, or without understanding the implication of each term. Goldberg (1974) argues that since contract terms are often unnoticeable, sellers are encouraged to offer low quality–low price contracts. Moreover, cognitive deficiencies prevent consumers from fully internalizing the costs of many terms, even if they know and understand them (Cruz and Hinck 1996; Hillman and Rachlinski 2002; Korobkin 2003). The information asymmetry pushes sellers to offer inefficient and disadvantaging terms to consumers.

Nevertheless, the common belief in the current literature is that this is usually not an acute problem. Schwartz and Wilde (1979a), Trebilcock and Dewees (1981) Gillette (2004) and many others argued that the few reading consumers could often correct the market failure. They claimed that when the percentage of informed consumers meet a certain threshold, the seller will behave as if all consumers are informed. They even estimated that in some cases, it is enough that 33% of the consumers, or even only 10%, read the contract, in order to correct the information deficit (Trebilcock and Dewees 1981; Schwartz and Wilde 1979a). They claim that even if the seller is a monopolist, the informed consumers can lead her to produce efficient contract terms and exert her monopoly power on the price (see Trebilcock and Dewees 1981; Schwartz 1977; Kornhauser 1976).[3] This analysis dominates the current legal thought.

It is true that a few scholars, including Korobkin (2003) and Cruz and Hinck (1996) argue that sufficient number of fully informed and rational consumers is not likely to be found. Yet even they do not argue against the basic claim of Schwartz and Wilde (1979a) that the market might behave as if all consumers were informed even if many of them were not.

In this paper I argue that unless all consumers are informed, sellers would offer sub-optimal terms in the contract. I argue that the dominant view, according to which an informed minority could assure efficient contracts, is based on models that use unrealistic assumptions. This view relies mainly on the assumption that all consumers have the same reservation price for the contract. When a more realistic assumption of a down-sloping demand-curve is introduced, the result differs substantially. As long as some of the consumers are uninformed, a monopoly will offer inefficient terms in her standard form contract, i.e., terms that reduce the value

[3] For a different view, see Cooter and Ulen (1997). They claim, following Kessler (1943), that standard form contracts can be a tool to help a cartel to control its members. However, as long as the form contract is not designated for cartelizing the market, it is, in their view, a tool that promotes efficiency. For different uses of this argument, see also Kornhauser (1976). For other strategic uses of standard form contracts, see Ahdieh (2005) and Gilo and Porat (2006). For a brief review of the historical development of the normative literature on the subject, see De Geest (1994). See also De Geest (2002)

of the contract to consumers more than it reduces the costs to the seller.[4] As I show, the seller can adjust the content of each term to the proportion of consumers who are informed of it. Hence, a higher proportion of informed consumers can reduce the inefficiency, but as long as not all consumers are informed, the readers cannot fully correct it. Terms that are often known to most consumers would be less inefficient than terms that are known to very few. Thus, the two main points of this paper are that (a) partial information cannot correct the market and (b) that the issue is not the level of information about the whole contract, but each term should be examined separately.

The intuition behind the argument is as follows. An inefficient term is a contract term which reduces the cost to the seller by creating a smaller reduction of the value of the contract to the consumers. When such a term is included in the contract, the seller fully internalizes the cost reduction. However, the proportion of informed consumers prorates the reduction in demand. For example, a term that reduces the value of the contract to the consumers by €10, reduces the highest price informed consumers are willing to pay (the reservation price) by €10, while leaving the demand of the uninformed unchanged. If only half of the consumers are informed, the term would reduce the average reservation price by only €5. In other words, the seller internalizes only half of the value's reduction. By introducing the term, and simultaneously reducing the price by €5, she can assure that her sales stay in the same level. Thus, she will include the term as long as it saves her more than €5 in costs, even if the term reduces the contract's value to the consumers by €10. Now, in order to maximize her profits, the seller adjusts the level of one-sidedness of each term to the proportion of consumers who are informed about the term.

Obviously, if 90% of the consumers are informed, introducing such a €10 term is worthwhile only if the term reduces the seller's costs by more than €9. In some cases this is not the case. But in most cases the seller can adjust the content of the term to meet this criterion. And if adjusting one term is more difficult, other terms might be available. Thus, there is no threshold beyond which the portion of informed consumers assures full internalization of terms' costs and benefits. A gradual increase in the portion of informed consumers will gradually increase the internalization of the cost of inefficient terms, while full information result can only be achieved if full information actually exists.

This does not mean that contracts' quality deteriorates indefinitely. Many stipulations come into force in every contractual relationship and thus are known to all but a few first-time consumers. For example, if instead of offering a door-to-door service, a delivery contract stipulates that the recipient has to collect the shipment from an office of the carrier, this stipulation will be quickly known to every user of the service. Hence, the seller (here, service provider) would only insert such a

[4] Of course, terms might also be inefficient if they increase the cost to the seller more than they benefit consumers. However, no rational seller would insert such terms to the contract, even if all the consumers were fully informed. If a term costs the seller €5 but increases the value to consumers by only €4, the seller could always profit by removing the term and reducing price by €4. Such an action will assure her that the quantity demanded remains the same while the profits for each contract increases by €1. Thus, when sellers set the terms there is no reason to expect pro-consumer inefficient terms.

stipulation if consumers were better off with lower prices than they are with the door-to-door service.

In addition, most courts refuse to enforce terms which clearly lack economic sense and could only be explained as an exploitation of information deficits. If a carrier stipulated in the fine print that consumers must compensate her and third parties in case of an accident, even if the accident was the carrier's fault, the term would not be enforced. Obviously, the carrier is a better cost avoider in such a case, and most courts would see things that way.[5]

As a result, the seller is only able to rely on consumers' information deficits regarding terms which can be viewed as relevant to the contract but may still be unknown to many consumers. The classic example is terms that transfer contractual risks to consumers. These terms come into force only rarely, and thus are unknown to many consumers. Often the carrier can show an economic rationale for such a term, since most risks are affected by the behavior of both parties, and it is hard to prove who the best risk bearer is. This paper shows that in the absence of judicial review, the supplier will adjust the risk allocation of these terms inefficiently.[6]

The rest of the paper is organized as follows: Part II presents a model of a monopoly which offers the same standard form contracts to both informed and uninformed consumers. This part shows that in the absence of full information, the seller offers suboptimal contract terms. Part III examines the incentives of consumers to read the contract. A few concluding remarks appear in Part IV.

2 The model

A non-discriminating, rational, profit-maximizing monopoly (the seller) supplies a service subject to terms of a nonnegotiable standard form contract.[7] The price of the service (p) and the basic features of the contract are known to all. The personal preferences of the basic features of the service, W, is distributed in the population by a distribution function $F(W)$, i.e., the portion of the population that estimates the value of the feature as at most W is given by $F(W)$.

The seller has to decide whether to include in the contract a term that will only be observed by the reading consumers. The seller can construct the term in different ways, and by doing so she determines the effect of the term on the value of the

[5] On the other hand, courts might enforce a term which limits the carrier liability for damages to the shipment, since covering for such damages would require senders of inexpensive materials to subsidize the insurance for those who send expensive material. Requiring such cross subsidy might result in adverse selection, and hence it is less clear whether the inclusion of such a term is the result of consumers' information deficit.

[6] In some cases, informed consumers might angrily reduce their willingness to pay beyond the direct cost of the inefficient term, and thus counterbalance the ignorance of the uninformed. When such anger is sufficiently influential it might help to discipline the seller.

[7] Throughout the article I assume that sellers know and understand the terms of the contract they offer, which is usually the case since, unlike consumers, sellers draft the standard contract. Moreover, sellers draft the contracts with care, knowing that the form will serve them for numerous transactions. Random mistakes might, of course, occur even from the seller's side, but the problem discussed here refers to systematic lack of information which one side (the seller) can rely on.

service to the consumers. For example, the seller can add an exemption clause for damages caused by delay in supply and choose the length of the exempt delay and the circumstances. Obviously, the longer the exempt delay and the broader the exempt circumstances are, the lower the value of the contract to the consumers is. Yet limited exemption clauses might be beneficial to both parties. A term exempting the seller from losses caused by short delays in supply that were not a result of the seller's negligence can save expected costs of future litigation, and thus reduce the cost by more than the reduction in value. On the other hand, a term exempting the seller from long delays that she causes deliberately prevents internalization of the damage she causes, and hence is inefficient. The seller can control the scope of the exemption, and thus control its effect on the consumers.

Let k denote the quality of the contract in monetary terms, i.e., the effect of the term on the contract's value to the consumers. For example, the quality of a term that reduces the value of the contract to the consumers by €10 is $k = -€10$. Since we are interested in quality and not in diversity, k is assumed to be the same to all consumers.[8] Thus, the reservation price of each informed consumer is a sum of his personal preference for such a service when the hidden term is not included, W, plus the benefit the consumer gains from the quality, k. In other words, k represents the relative value of the term to consumers, compared to the default rule which would apply in the absence of the term. Since our concern is about terms that harm consumers, k in our analysis is usually negative (when the term is not included at all $k = 0$). However, when the default rule is inefficiently pro-seller, even a pro-consumer stipulation ($k > 0$) might be inefficient, if it does not deviate sufficiently from that rule.

The seller's marginal cost, $c(k)$ is constant for quantity and it depends on the quality of the contract k. Thus, the total cost of the seller is $Q \cdot c(k) + C_0$, when Q is the quantity of services she sells, and C_0 is the fixed cost. From now on, for simplicity, I assume that there are no fixed costs, i.e., $C_0 = 0$. This assumption does not affect the result of the model. The seller's revenue depends on the quantity Q, and the price P, that is $P \cdot Q$. The marginal cost function $c(k)$ is increasing and convex for quality,[9] i.e., $c'(k) > 0$ and $c''(k) > 0$. The only source of information about the content of the hidden term is reading. At any given time, every consumer buys at most one service.

2.1 The quality when all consumers are fully informed

Let us assume first that all consumers are fully informed of the quality k. Let $F(P)$ denote the portion of the population that estimates the price of the contract to be too

[8] When k is different for different consumers, then a change in k might reduce the welfare in some transactions but increase it in others. For simplicity, I do not refer here to the possibility that different consumers have different preferences regarding the hidden terms.

[9] The convexity of the cost function can be explained using the example of the exemption clause. When the quality of the contract is low, because of a broad exemption clause, the seller can, at a relatively small cost, improve the contract substantially. By narrowing the scope of the clause not to include substantial risks to the consumers that can be cheaply prevented (e.g. holding minimal stocks to reduce the risk of long delays in supply), the seller can increase the quality considerably at low costs. On the other hand, when the quality is already high, additional increase would impose more substantial expenditure.

high when the quality is $k = 0$. Thus the proportion of potential consumers that purchase the contract of quality $k = 0$ is $Q = 1 - F(P)$. If we normalize the maximum possible quantity purchased by the population to be 1, then this is the demand curve.

By generalizing the demand curve for every k when all consumers are fully informed, we get:

$$Q = 1 - F(P - k) \tag{1a}$$

In this equation, P is the price the seller can charge if she wants to sell Q units of quality k when all consumers are fully informed.

We can write (1a) in an inverted form, when P is the dependent variable:

$$P = F^{-1}(1 - Q) + k \tag{1b}$$

When $F^{-1}(\cdot)$ is the inverted function of $F(\cdot)$.

The monopolist's profits are:

$$\Pi = [\mathrm{F}^{-1}(1 - Q) + k]Q - Q \cdot c(k) \tag{2}$$

Where Π is the profit of the monopolist, $[F^{-1}(1 - Q) + k]Q$ is her revenue and $Q \cdot c(k)$ is her cost. For a given Q, the seller can maximize her profits when $\partial\Pi/\partial k = 0$, and $\partial^2\Pi/\partial k^2 < 0$[10]. The second order condition requires $c''(k) > 0$, which is true by assumption for every k, and the first order condition is:

$$c'(k) = 1 \tag{3}$$

That means that no matter what Q will be chosen by the seller, it is in all cases worthwhile for her to provide the same quality k. This is also the quality level that maximizes the overall welfare. If k is lower, and thus $c'(k) < 1$, the seller can increase the quality and price by €1 without affecting the quantity demanded, while increasing her costs by less than €1. If k is higher, and hence $c'(k) > 1$, the seller can reduce the quality, and by so doing save costs that are higher than the reduction in quality. Hence, when all consumers are fully informed of k, a monopolistic seller creates no quality distortions.[11]

The intuition behind this result is plain. If all consumers know the quality, they will adapt their willingness to pay accordingly. Thus, the seller would adjust the quality to the level in which the marginal cost of quality equals the marginal benefit of the quality for the consumers, which is by definition equal to €1.

2.2 The quality when some consumers are uninformed

Assume now that only a proportion of the population α ($0 \leq \alpha \leq 1$) is informed of the content of the hidden term. In all other respects, including the distribution of the

[10] To be more precise, when maximizing her profits, the seller forces $\partial\Pi/\partial Q = 0$ and $\partial^2\Pi/\partial Q^2 < 0$. These constraints help him determine which quantity Q it is optimal to produce. With respect to this optimal quantity, an optimal quality k is determined. These additional constraints on the quantity do not affect the result regarding the derivative of the cost function $c(k)$.

[11] For a similar result in a competitive market with fully informed consumers, see Cooper and Ross (1984)

reservation price, the uninformed are a represented subgroup of all consumers. In other words, there is no correlation between the reservation price of a consumer and the probability that this consumer is informed.[12]

Let Q_I denote the quantity demanded by the informed consumers, and Q_U by the uninformed. Thus, the overall demanded quantity is the sum of the quantity demanded by both groups, i.e.,[13]

$$Q = Q_1 + Q_U \tag{4}$$

For simplicity, assume that the demand is linear.

Assuming linearity, the demand of the informed consumers is

$$Q_I = \alpha \cdot \frac{A - (P - k)}{b} \tag{5a}$$

or

$$P = A - \frac{b}{\alpha} \cdot Q_I + k \tag{5b}$$

with A and b determining the intercept with the axis and the slope of the function.

The uninformed have similar preferences but they do not know the real k, hence they decide according to their estimation of the quality. Let k_U denote this estimation, and assume that this estimation is the same for all consumers (an assumption which is relaxed later). For the time being, the exact value of k_u is unimportant, as long as the seller cannot affect it. The demand of the uninformed is hence:

$$Q_U = (1 - \alpha) \cdot \frac{A - (P - k_U)}{b} \tag{6a}$$

or

$$P = A - \frac{b}{1 - \alpha} \cdot Q_U + k_U \tag{6b}$$

Using (4), (5a) and (6a) it can be shown that

$$Q_U = (1 - \alpha) \cdot Q - \frac{(1 - \alpha) \cdot \alpha}{b} \cdot (k - k_U) \tag{7}$$

For the seller, interested in maximizing her profits, Q_U can thus be determined by her choice of Q and k.

[12] This assumption is often used in the literature. See for example Wilde and Schwartz (1979b), Cooper and Ross (1985).

[13] In order to avoid problems of range definitions and to simplify the analysis, I assume that the results do not occur near the upper edge of the demand curve, when the monopolist might sell only to the informed consumers or only to the uninformed ones.

The seller's profit is

$$\prod(Q,k) = P(Q,k) \cdot Q - c(k) \cdot Q \tag{8a}$$

or

$$\prod(Q,k) = P(Q_U(Q,k)) \cdot Q - c(k) \cdot Q \tag{8b}$$

Using (6b) and (7) it can be shown that 8b is maximized when

$$c'(k) = \alpha \tag{9}$$

This result means that for every given Q, a monopolist supplier will adjust the quality of the hidden term to the point where an additional reduction of €1 in her cost reduces the quality to the consumers by €α.[14] As a consequence, only when ***all*** consumers are informed ($\alpha = 1$), will the monopolist form an efficient contract with $c'(k) = 1$.

The intuition behind this result is as follows: Each €1 reduction in the value of the service reduces the demand of the informed by €1, while not reducing the demand of the uninformed at all. If half of the consumers are uninformed, the aggregated demand will be reduced by €0.50. Thus, as long as the seller can reduce her cost by €1 by reducing the quality by less than €2, she would do so.[15]

3 The decision to read the contract

In this part I examine the factors that might affect consumers' decision to read the contract in order to know the quality of its terms. Consumers with very high willingness to pay are likely to refrain from reading the contract. These consumers know that even if the quality of the contract, k, is much lower than the quality they expect k_U, they are still likely to buy, and thus there is no point in the effort of reading. On the other hand, when the reservation price adapted by k_U is closer to the price set by the seller, the chances that the quality will affect the decision to buy are

[14] If we relax the linearity assumption, the result of (9) will be only slightly different. If the demand curve is convex, and $k < k\mathrm{U}$ ($k > k\mathrm{U}$) then $c'(k) > \alpha$ ($c'(k) < \alpha$). That means that for a convex demand curve, the informed consumers influence the result by more than their portion α when the uninformed consumers over-estimate the quality, while their influence will be less than their portion α when the uninformed consumers under-estimate the quality. For a concave demand curve, the result is vice versa. However, since the convexity is not likely to be significant in the small range affected by the term, and since the difference between the real quality and the estimated quality would not be significant either, the result would not vary substantially from α.

[15] Even when the seller cannot adjust the quality gradually, he might find inefficient terms to be beneficial. In the above case, the seller would benefit from a term that reduces the value of the contract by €100 as long as this term saves him more than €50 (say, €51). One can see that the profit of the seller increases after this process if the seller, simultaneously, reduces the price by €50. In this case, the quantity demanded would be the same as before, but for each product sold, the seller will profit an additional Euro, because the price is down by €50, while the cost is down by €51. Note that the seller might still adjust the quantity and the price further for maximal exploitation of the term, but for the purpose of this article it is enough to show that such a term would increase profits by at least €1 per unit.

higher. Thus, in such cases, consumers are more likely to read the contract before signing. In this part I present the main factors affecting the decision to read.

3.1 The factors affecting the decision to read

Let us observe one consumer. Define this consumer's willingness to pay for a contract with a quality of $k = 0$, as W. If the consumer is fully informed, he will buy the contract when $P \leq k + W$. However, assume now he is not informed and he can choose whether to pay the costs of reading and understanding the contract or not. The costs of reading the contract are r, and by bearing them he will know the real quality of the contract k. If he does not read the contract, he will have to rely on his uninformed estimation of the quality of the contract k_U. Assume that the consumer believes that the real quality of the contract is somewhere between $k_U - z$ and $k_U + z$, while in this range every number is equally possible.[16] Further assume risk neutrality, thus the consumer just maximizes expected benefits.

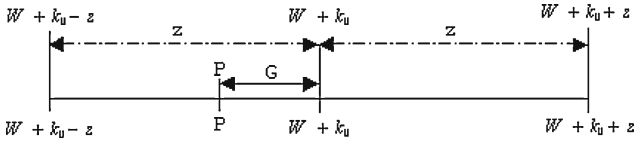
Let us define G as the expected net gain for the consumer from buying the service without reading. Thus

$$G \equiv W + k_U - P \tag{10}$$

If $G \geq z$, the consumer will not read and will buy the service, because according to his estimation the contract will be beneficial in any event. Even if the contract's quality was in the lowest place in the estimated zone, i.e., if $k = k_U - z$, he would be better off buying the contract, according to his beliefs.[17]

A more complicated situation arises when $W + k_U - z < P \leq W + k_U$ (i.e., when $0 \leq G < z$). In this case, though the expected gains from the contract are positive, the contract may also be a bad deal. The consumer then has to decide whether checking the contract is worth the costs.

If the consumer reads the contract, the probability that he will buy is $(G + z)/2z$.



This can be seen in the above figure. If after reading, the reservation price $(W + k)$ is between the points P and $W + k_U + z$ then the consumer will sign the contract. The distance between these points is $G + z$. The portion of this distance out of the whole possible range is $(G + z)/2z$.

[16] It is more likely to assume a normal distribution of kU around k. However, this would extremely complicate the calculation without adding a thing to the substance of the result.

[17] For consistency, I assume that when the consumer is indifferent between buying or not, he buys the service; if he is indifferent between reading and not reading, he does not read.

His expected gain if he buys after reading is $(G + z)/2$, which is the average of gains from all contracts which are worthwhile for him between P and $W + k_U + z$. This average is higher than G because after reading, there is no chance that the consumer will enter a contract which is not worthwhile, i.e., a contract whose worth is less than P. His expected net gains from deciding to read is equal to the probability he will buy after reading, times the expected benefits from buying after reading, minus the costs of reading. Hence

$$U_r = \frac{G+z}{2z} \cdot \frac{G+z}{2} - r = \frac{(G+z)^2}{4z} - r \tag{11}$$

when U_r is the expected gain to the consumer when he reads the contract. The consumer will read the contract if, and only if, the U_r is higher than the expected gains from signing without reading G; meaning if

$$\frac{(G+z)^2}{4z} - r > G \tag{12}$$

If $W + k_U + z \geq P > W + k_U$ (i.e. $z \leq G < 0$) the consumer will not buy unless he decides to read and after reading he finds out that the contract is worth the price. The consumer will read if the expected net gains from reading are positive. The expected gains from reading are the same as in (12), only that this time it should be compared to 0 and not to G (because the consumer will not buy if he does not read when $G < 0$). Thus the consumer will read if:

$$\frac{(G+z)^2}{4z} - r > 0 \tag{13}$$

Of course, if $P < W + k_U - z$, (i.e., $G < -z$) the consumer will not read and will not buy.

We can now summarize the conditions for which the consumer will read the contract.

The consumers will read the contract if, and only if:

$-z < G < z$ and

$$\frac{(G+z)^2}{4z} - r > \begin{cases} G & \text{if } G > 0 \\ 0 & \text{if } G \leq 0 \end{cases}$$

Solving (11) and (12) for G gives us:

$$-z + 2\sqrt{rz} < G < z - 2\sqrt{rz} \tag{14}$$

If this condition is fulfilled, and only then, the consumer will read the contract.

3.2 The readers ability to correct the market failure

The result in (14) helps us estimate whether and when the reading consumers can serve to correct quality distortion in the market. From this result we can deduce the following conclusions:

3.2.1 Conclusion 1

If $r < 1/4z$, and for all consumers in the margins, (i.e., consumers who would change their choice if they are informed of a change in quality) k_U is not different from k by more than $z - 2\sqrt{rz}$, then every small change in the quality k will be fully internalized. This is because all the consumers who may change their decision due to a change in quality will read the contract. As shown in the first part, when this happens, the supplier has incentives to offer an efficient contract. This shows that under certain conditions a monopolist has the right incentives to produce the efficient quality.

However, from the optimistic outcome in conclusion 1, we can also find the pessimistic and more realistic outcome that occurs when the conditions for conclusion 1 are not fulfilled:

3.2.2 Conclusion 2

When $r > 1/4z$then G does not fulfill the requirements of condition (14). If $r > 1/4z$ for all consumers, no consumer would read the contract, no matter how close G *is* to zero. In such a case, no knowledge in the market about the contract terms will exist. If some knowledge is available from other sources—like word of mouth advertisement or repeated purchases—then this knowledge will spread randomly and will not necessarily reach the marginal consumers, an issue that is discussed in the next part. Thus when $r > 1/4z$, the model presented in the previous paragraph better represents the expected outcome.[18]

3.2.3 Conclusion 3

If the different consumers have different estimations as to the size of k, then again the marginal consumer will not play their market-correction role. The intuition for this result, whose formal proof is omitted, is shown in the following example. Let us assume a service which costs $P = 100$, given at a real quality of $k = 0$. Assume that the potential consumers are divided into three main groups, A, B, and C, according to their willingness to pay for such a contract, when they are fully informed. The consumers for whom the contract is worth between 85 and 95 are in group A. For consumers in groups B and C, the product is worth between 95 and 105, and between 105 and 115 respectively. Each of these three groups is divided into three equal sub-groups, according to their estimation of the quality of the contract. The second row shows the consumers that rightfully estimate the contract's quality to be 0. The consumers in the first row underestimate k to be –10; those in the third row overestimate it to be +10. Thus, there are nine equal subgroups of consumers according to their willingness to pay and their estimation of the contract's quality.

[18] For a graphical example of conclusions 1 and 2, when different consumers have different costs of reading, see the Appendix.

	$W_A = 90 \pm 5$,	$W_B = 100 \pm 5$	$W_C = 110 \pm 5$
$k_{U_1} = -10$	$W_A + k_{U_1} = 80 \pm 5$	$W_B + k_{U_1} = 90 \pm 5$	$W_C + k_{U_1} = 100 \pm 5$
$k_{U_2} = 0$	$W_A + k_{U_2} = 90 \pm 5$	$W_B + k_{U_2} = 100 \pm 5$	$W_C + k_{U_2} = 110 \pm 5$
$k_{U_3} = 10$	$W_A + k_{U_3} = 100 \pm 5$	$W_B + k_{U_3} = 110 \pm 5$	$W_C + k_{U_3} = 120 \pm 5$

When $z - 2\sqrt{rz} = 5$, the consumer will read the contract if, and only if, his expected gain from it without reading is lower than 5 and higher than –5 ($-5 < G < 5$). Since the contract's price is 100, the consumers who will read the contract are those who estimate the contract as worthwhile between 95 and 105 for them. One can easily see that these consumers are a third of each group: subgroup 3 of group A, subgroup 2 of group B and subgroup 1 of group C (marked in gray in the table). In this example, due to the mistakes in the estimation of the quality, the informed consumers are a random portion of all consumers and not only the marginal consumers (in this example the marginal consumers are the consumers in group B). This again brings us back to apply the model that was developed earlier. The informed consumers are one third of the consumers randomly distributed among the consumers.[19]

3.2.4 Conclusion 4

When a big reduction in k is possible, the marginal consumers cannot correct the market failure. If the seller can alter the quality k and price P without reducing her profits per unit, in a way that the new price would cause all the previous readers to buy the service without reading, it is always worthwhile for her to do so. In order to see it, let us look again at the table shown above, but this time I assume that all consumers estimate correctly the product quality. Thus, the three groups exist as in the table below. In this case all consumers in group C will buy without reading. The consumers in group B will read the contract and half of them will buy the service. Consumers in group A will not read and will not buy.

	$W_A = 90 \pm 5$	$W_B = 100 \pm 5$	$W_C = 110 \pm 5$
$k_{U_2} = 0$	$W_A + k_{U_2} = 90 \pm 5$	$W_B + k_{U_2} = 100 \pm 5$	$W_B + k_{U_2} = 110 \pm 5$

Now assume that the seller can reduce the quality k by 20, and by doing so she reduces the cost per unit by 10. For simplicity, assume that all the change in costs is reflected in the price; thus the price of the service is now only $P = 90$, and the quality is $k = -20$. The consumers cannot detect the change in k, since they do not know, by assumption, the supplier's cost function. However, they react to the

[19] See a graphical example, explaining this conclusion for a broader range of differences in estimations, in the Appendix.

change in P. Now all consumers in group B, who still estimate k to be $k_U = 0$, will buy without reading. Consumers in group A will read, and after doing so none of them will buy. In group C, no change will occur and all the consumers of that group will buy without reading. Thus, half of group B who did not buy under the previous set of price and quality will buy under this inferior set. The seller inserted an unfair clause to the contract, and by doing so she increased her surplus by 33.3%, though all consumers have correctly estimated the quality before the change. It can be easily shown that the same result will occur if the consumers overestimate the quality before the change and correctly estimate it afterwards.[20] It is always true that if the seller can reduce her costs, and thus her price by more than $z - 2\sqrt{rz}$, then it is worthwhile for him to do so, no matter how big the corresponding reduction in quality should be.[21]

In summary, it seems that the more complicated assumption, according to which the informed consumers are not a random portion of the consumers, but rather are those who find it worthwhile to read the contract, does not add a lot to the model. Thus, the conclusion which was drawn in the previous section is still valid. Knowledge about the quality that is in the hands of only some consumers cannot create an efficient result.

4 Concluding remarks

4.1 Different potential terms and reputation

Sellers have many available terms at their disposals. For each term, a different proportion of consumers would be informed. Terms that become known to every consumer after the transaction, will be known to many potential consumers even without reading the contract. Terms that take effect only rarely (like exemption clauses) or terms whose effect is hidden from the consumers (like bank commissions which are not presented clearly in the bank's statement), will usually be known to a smaller proportion of consumers. The seller has, thus, two tools in her hands. She can choose the type of term, and prefer terms that become known only rarely, or she can choose the exact content of the term, adjusting it to the effect on the costs and quality, considering the level of knowledge for such a term. Hence, sellers can always construct profitable inefficient terms.

[20] Many models of asymmetric information assume that consumers know the seller's cost function and his alternatives and thus can infer that such quality-reducing terms will be introduced. If this is the case, then consumers will infer that the inferior term is included in the contract, and thus estimate the quality of the contract correctly after inclusion. This model uses a less strict assumption about consumers' knowledge, and shows that the quality reduction would still occur whether the consumers correctly estimated the final quality of the contract or not. For more details see section IV B.

[21] This conclusion is correct if there is no knowledge that is randomly transferred to a portion of the consumers, namely, that the only informed consumers are those who find it worthwhile to read the contract according to their estimation of its quality. If some information exists in the hands of a random portion of the consumers, in addition to the knowledge of the readers, the previous model can be applied for a big change in k.

Reputation can increase the proportion of informed consumers. Some consumers might learn about the quality of contract from word of mouth, newspaper stories and similar sources which generate the seller's reputation, and thus be informed of the quality without reading. In few industries such mechanisms might have a substantial effect. For example, in the car industry, the quality discoveries are quickly revealed to a very big proportion of the consumers through private information companies, especially car magazines and motor-clubs. Yet in most cases at least some terms can be hidden for a substantial period of time having a very limited effect on the demand. As Shapiro (1982) showed, even if the term is ultimately made known to everyone (and this is rarely the case), the time lag assures that the seller would behave as if information is partial. From time to time a term can be made public because of a successful campaign of a displeased consumer. But even in these rare cases in the life of a seller, the seller can publish the changes in policies or offer alternative contracts as well after the damaging publication, substituting one harming term with another.

4.2 The estimated quality by the uninformed

Usually asymmetric information models assume that uninformed consumers know enough about the cost of the seller and the market structure, and thus, at equilibrium, correctly deduct the quality of the product (see, for example, Akerlof 1973). Such assumptions seem unrealistic. Consumers with no knowledge of the content of the contract they sign are unlikely to know so much about the costs of the seller and the demand she faces. In any case, the case where k_U is equal in equilibrium to k is simply a special case of the more general model presented above. Hence even if we assume that such knowledge exists, the result of the model remains the same.

That does not mean that uninformed consumers know nothing about the sellers' interests. From experience, they know that standard form contracts are often one-sided. They might even know that sellers are incentivized to reduce the contract quality in such a contract, even if they cannot know exactly how. Thus, they might be less willing to buy a service with such a standard form contract. In other words, the demand for the service might be lower because of the information asymmetry, and the consumers' belief that the hidden terms are unfavorable. Hence, sellers might also suffer from the information deficit. The effect of the information asymmetry on sellers is indeterminate, because in some cases consumers might underestimate the means of reducing the contract's quality. In such cases, the demand is not sufficiently affected by consumers' concerns, and the seller's gain from the terms exceeds her losses from the decrease in demand. In other cases, though, consumers' concerns might more accurately reflect reality, or even be too pessimistic. In these cases, the demand is substantially affected by consumers' concerns. Sellers in these markets would also lose from the information deficit.

Courts can thus play a positive role in correcting the market. If courts can detect and invalidate inefficient pro-seller terms, both parties can gain. Sellers will have fewer options to reduce quality inefficiently and consumers will learn to trust such contracts, and thus be more willing to pay for them. Obviously, if courts often make mistakes, such a policy might be counterproductive. Thus, one cannot infer that encouraging

courts' intervention is always the solution. Yet the prevailing view which relies on informed consumers to do the job is also too optimistic, and thus cannot, in itself, justify the calls for judicial restraint in reviewing standard form contracts.

4.3 More competitive markets

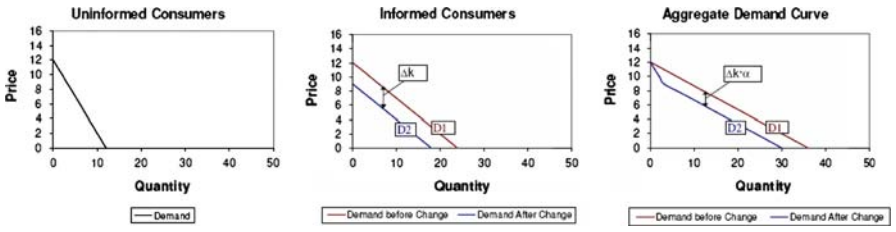
Though the model refers to a monopoly, most of the analysis is relevant to more competitive markets as well. In most markets, sellers have some market power, due to differences in the product or terms. Often they create market power by non-price competition. Thus, many of the factors affecting a monopoly are likely to affect a seller in monopolistic competitions. It is true that in monopolistic competition, reduction in quality would drive many informed consumers to competitors. Yet the price decrease that the quality reduction allows would drive many uninformed consumers from competitors to the seller. A more thorough examination of competitive markets should be addressed separately, but for now it is enough to say that competition, in itself, does not necessarily alter the conclusion.

Acknowledgements This paper greatly benefited from comments and criticisms of Omri Ben Shahar, Gerrit De-Geest, Hans-Bernd Schaefer, participants of The Annual Conference of the Israeli Law and Economics Association, Tel Aviv, 2003 and the participants of the Annual Conference of the European Association of Law and Economics, Nancy 2003. Ziv Glazberg provided excellent research assistance.

Appendix-graphical examples

The demand when some consumers are uninformed

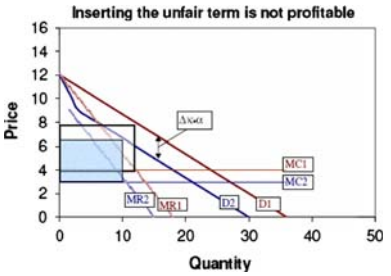
Note: In the following graphs, the index 1 (D1, MC1, MR1) refers to the situation that exists if the seller does not include the quality reducing term in the contract; and index 2 (D2, MC2, MR2) refers to the final equilibrium after the term is included. Variables that do not change due to the change in quality are marked with no index (D, MC, MR).



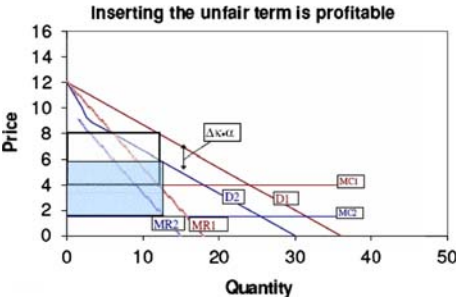
In the above example, the portion of informed consumers is 2/3. A reduction in quality of €3 causes a reduction of €3 in the willingness to pay by the informed consumers (see Δk in the second graph) but no reduction in the willingness to pay by the uninformed consumers. Therefore, the aggregate demand curve is €2 lower than before the reduction in quality. If, by reducing quality by €3, the seller can reduce her

cost by more than €2, she can sell the same quality as before, for €2 less, and increase profits. (See this result in "The choice of the monopoly, when only a portion of consumers is informed").

The choice of the monopoly, when only a portion of consumers is informed



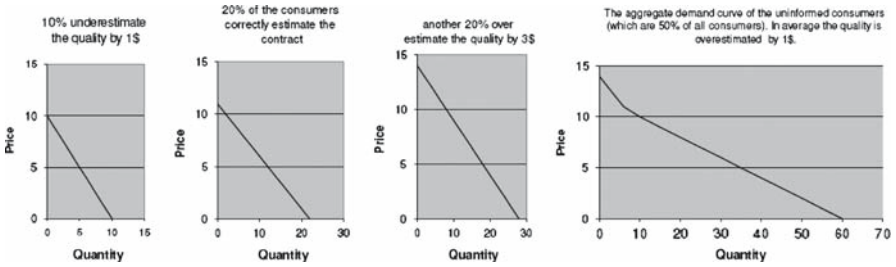
In this example, the two aggregated demand curves (D1 and D2) are presented as in the previous page. MC1 and MC2 are the marginal cost curves before inserting the unfair term and after, respectively. MR1, and MR2 are the corresponding marginal revenue curves. The upper rectangle, printed in a bolded line, is the profits before inserting the unfair term, and the lower one, which is filed in with dots, is the profits after. Since the cost saving of inserting the term is smaller than $\alpha \cdot \Delta\kappa$ (MC1 – MC2 = $1 < 2 = \alpha \cdot \Delta\kappa$) the monopoly would loose from inserting the term. That can be seen from the difference in size of the profit's rectangles.



This example is similar to the one on the left, only here the reduction in cost after inserting the unfair term is of €2.5 per contract (i.e. MC1 – MC2 = 4 – 1.5 = 2.5). Since this reduction in cost is bigger than the reduction in quality times the portion of informed consumers ($2.5 > \alpha \cdot \Delta\kappa$, since $\alpha \cdot \Delta\kappa = 2$) it is profitable to insert the unfair term, although it create more losses to consumers than benefits to the supplier. Graphically it can be seen from the size of the rectangles. The upper rectangle, representing the profits before inserting the term is bigger than the lower one.

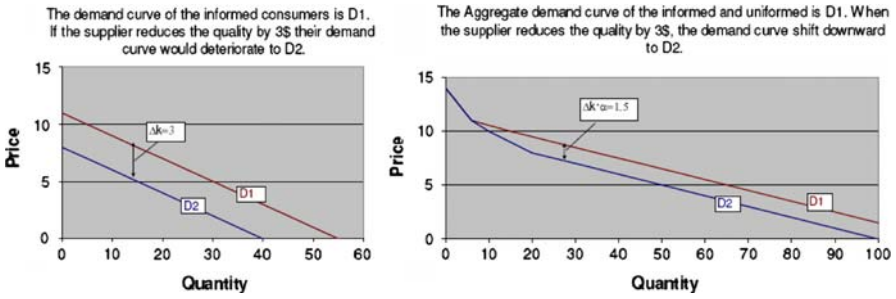
Different estimations of the quality

On this page, the uninformed consumers have different estimations of the quality of the contract. Ten percent of the consumers underestimate the quality by €1 (left graph), 20% correctly estimate it (second from the left), and another 20% overestimate it by €3. Since there is no correlation between the estimation of quality and the willingness to pay for the main properties of the contract, the demand of each sub-group is still linear.



The aggregated demand curve of the three sub-groups of uninformed consumers (the graph on the right) is similar to the demand curve these consumers would have if each of them overestimated the quality by €1 (if we disregard the upper edge of the curve, above the breaking point). This is because, on the average, they overestimate the quality by €1. Now we can introduce the demand of the remaining 50% of the consumers—the informed consumers. This is done in the next page.

The demand curve of the informed consumers is presented in the graph on the left. In the initial state, this curve is D1. If the seller reduces the quality by €3, their willingness to pay will be reduced by €3, and their demand will be D2. The aggregated demand curves, on the right-hand side shows that a reduction in quality of €3 caused the demand curve to be €1.5 lower, as anticipated by the model when 50% of the consumers are informed.



Two new features were presented on these two pages. First, here the uninformed consumers have different estimations of the contract's quality. Second, the average estimation is wrong (here, overestimation of €1 on the average at the initial point). Yet the result stays unchanged. The monopoly would insert an unfair term if, and

only if, the cost-reduction of doing so is higher than the reduction in quality, times the portion of informed consumers (i.e., $\Delta k \cdot \alpha < \Delta k$). As long as there is no correlation between the willingness to pay for the main properties and the estimation of quality, different quality estimation does not change this result.

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