CONTRACT COLLUSION AND PUBLIC INTERVENTION

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Abstract

In this article we prove that when trade takes place through contracts of adhesion, consumer sophistication not always push competitive sellers to disclose contract terms (viz. fine print). To do that we claim that contracts of adhesion including possibly onerous fine print can be considered very similar to a cartel among firms into the market allowing them to keep price above their cost. The industrial organization literature proves that a cartel works very well in the presence of few enough rms and/or a high discount factor. We prove that an opposite result characterizes a competitive market whenever consumers have to pay a positive cost to read the contract, unless the seller discloses. Precisely, we find that for a discount factor equal to 0 sellers may decide not to disclose in equilibrium (viz. to full the cartel); whereas they always disclose if the discount factor is equal to 1 (viz. they break the cartel). This result is an important starting point in order to answer a crucial question in the debate about whether and when some policies have to be implemented in order to protect consumers against sellersabuses

KEYWORDS: collusion, reading cost, contract disclosure.

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1 Introduction

Several markets are characterized by the usage of standard contracts, usually drafted by the sellers and offered to any potential consumer on a take-it-or-leave-it basis. Examples can be found in transportation, bank contracts, mortgages, credit card issuing or account opening, insurance policies, and so on. It is very unlikely that consumers read contracts terms (see Marotta-Wurgler, 2008). This mainly happens for two orders of reasons: firstly, consumers may not be interested into being aware of the content of clauses they guess very unlikely to come in use, such as liability, place of jurisdiction or warranties; secondly, even though they wish to know the content of these clauses, reading and understanding them may turn out difficult due to the technical legal language and the uncomfortable

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fine print usually characterizing these terms. As a result, sellers may have an interest to insert inefficient one-sided terms in their contracts.

Economists have focused their attention on this crucial element as shown by the large literature on reading costs characterizing standard form contracts. Katz, 1990; Gabaix and Laibson, 2006; Che and Choi, 2009; D'Agostino and Seidmann, 2009). Generally speaking, the attention of these papers focuses on the possible effects of regulation in order to identify whether the most efficient legal regime is that with sellers being free to choose terms and conditions to include in their contracts or a regulated system imposing some limits to sellers' freedom in order to protect possibly anaware consumers.

In this paper we wish to understand whether markets, more or less competitive, may find in themselves the right incentives leading to an efficient outcome in equilibrium avoiding sellers' collusion on the contract setting. Precisely, we claim that an opposite result in respect to the traditional literature characterizes the model if consumers cannot read for free to the whole contract, so that only short-lasting sellers have an interest to collude.

On this point, there is a large literature focusing on the effects of asymmetric information when the less informed party is not fully rational or sophisticated. Some authors prove that in the presence of enough consumers who compare sellers' offers before buying from one of them, competition will lead to an efficient outcome by pushing sellers to offer good terms at the lowest possible price (Schwartz and Wilde, 1983; Shapiro 1995; Armstrong, 2008). On a different point of view and in contrast with the traditional economics of information disclosure which predicts that disclosure takes place since high-quality firms have an interest to differentiate themselves from others by making consumers fully informed of their offers, other authors emphasize that firms in real environments are not prone to disclose their offers (Ellison and Ellison, 2009), as well as those clauses regarding add-on goods, to be intended as those prices regarding additional or complementary goods not observed by consumers when choosing to buy the base good (Lal and Matutes, 1994, Gabaix and Laibson, 2006).

This paper is related to this literature: we will model a general market where sellers offer a first-view identical consumption good that may vary only in quality which is not freely observable. Sellers may have an interest not to disclose their contracts as they could increase their payoffs by raising the price up to the marginal cost. In this sense, they can collude by proposing inefficient obscure contracts charging the same price that allow to share the market equally.

It is a standard view to link the likelihood of collusion to several structural indexes such as the number of firms in the industry and/or the sellers' time-preferences usually represented by the discount factor. For instance, it is commonly believed that as the number of suppliers increases and or discount factor decreases attaining a collusive agreement becomes more difficult. In this respect, the tacit collusion literature has shown that the critical threshold for the discount factor that makes collusion sustainable increases (so that collusion becomes in turn less likely) as the number of firms increases. The reason is that, as the number of firms increases each of them gets a lower share of the market from colluding, thus increasing the gains from breaking the cartel and reducing

the attractiveness of long-term collusion (Stigler, 1964, Osborne, 1976, Vives, 1999). Collusion is not limited to price, but may refer to other elements of the transaction. In our model collusion refers to the contractual setup[1] which sellers can chose and consists of offering an obscure contract with potentially one-sided fine print. Collusion is sustainable if no seller has interest to break the cartel and to offer a fully disclosed contract.

In order to evaluate the effects of contract collusion, we present a standard game with sellers have to chose between offering either fully transparent contracts or contracts with some obscure clauses which consumers may read and understand at some positive cost. We allow for a repeated game in which ———————————-two variants of the game: the first one is one-shot; whereas the second is repeated, meaning that consumers are allowed to match with other sellers in future periods of time. What diverges in the two games is the discount factor, which is assumed to be equal to 0 if the game is one shot, whereas it is positive and very large if the game is repeated. Our results are pretty different from the traditional economics of sellers' collusion; precisely, we prove that an opposite result characterizes a competitive market whenever consumers have to pay a positive cost to read the contract, unless the seller discloses. Precisely, we find that for a discount factor equal to 0 sellers may decide not to disclose in equilibrium (viz. to collude); whereas they always disclose if the discount factor is equal to 1 (viz. to cheat). This result is an important starting point in order to answer a crucial question in the debate about whether and when some policies have to be implemented in order to protect consumers against sellers' abuses in the presence of contracts of adhesion that consumers can read and understand at some positive cost,

The paper is also related to the large literature on searching costs. Diamond (1971) shows that the competitive outcome in equilibrium changes significantly when prices cannot be freely observed, but consumers search sequentially for price information and must pay a search cost in order to observe a given seller's price such that the existence of even small search costs will lead to equilibrium prices in a competitive market from the Bertrand solution to monopoly levels. Our results for the one-shot game are partially similar to that characterizing the Diamond paradox even if the key role is not played by the search cost but rather by the monitoring cost. In particular, we will show that monitoring costs may keep price above the Bertrand level but below the monopoly level in a competitive market where sellers do not disclose in equlibrium. In this sense, they influence the final equilibrium price less strongly than search costs in Diamond, and make our results less paradoxical. It follows from the fact that, contrary to Diamond, we allow consumers to observe price for free in every contract, so that sellers cannot increase their prices to the monopoly level. However, when an obscure offer is proposed to consumers, some features are not freey observable and may not be monitored: it allows sellers to keep prices above zero. The paper is organized as follows. Section 2 presents the model assumptions and specifies the solution concept we use to find the equilibria which

[1]Obviously, the kind of contract proposed is able to affect the price charged in equilibrium.

are presented and discussed in section 3. Section 4 discusses the implications of disclosure in a comparison with the previous literature and Section 5 concludes.

2 Model setup

The game is played by $N > 1$ sellers (he) and a unit mass of heterogeneous consumers (she). Sellers produce a good that looks like identical to consumers, but may vary in the quality of terms included into the contract according to $q = \{h, l\}$with $h > l$. As an example, almost every bank offers a warranty against credit card cloning: however, whether the warranty is friendly or not to consumers depends on terms and conditions regulating its extension and limits. Thus, if a warranty is formally offered but terms and conditions are so strict to make it substantially impossible to come in use, terms turn out unfriendly alike to no warranty being given. Accordingly, we refer to high quality terms as those turning out consumer-friendly, and to low quality terms as those turning out consumer-unfriendly. For the sake of simplicity, we assume that sellers face no cost if they offer low quality terms, and pay $c > 0$ to insert high quality terms. The game consists of two stages. In the first stage sellers simultaneously set price p and quality q, and make an offer to all potential consumers who are not allowed to negotiate terms and conditions. At the same time, sellers also chose whether to make term quality fully transparent or not. We call D the disclosure strategy which consists of a binary choice $D = \{0, d\}$. If sellers collude and decide not to disclose their contracts, trivially $D = 0$ and the correspondent contract term is included in fine print. If $D = d$, then collusion fails and terms on quality are disclosed at some exogenous cost $\delta > 0$, which each seller pays for each consumer he matches with. We assume that δ is exogenous and equal for every seller, and may consist of the cost of ensuring that each consumer understands the content of the term. To sum, a seller's strategy consists in offering a set $\{p, q, D\}$. In the second stage, consumers simultaneously observe both price and term quality if the contract has been made transparent; otherwise they only observe the price for free and attach a probability $\gamma \in [0, 1]$ that the term quality offered is high. Those consumers willing to have access to such an information must pay a reading cost $\rho > 0$. This is a crucial element of the model: precisely, we assume that reading is reliable with no risk of fault, and may consist of the cost of paying an expert to read and explain fine print. Furthermore, in contrast to Katz (1990) and Che and Choi (2009), we assume that such a cost is fixed and independent from sellers' strategies. Independently on whether contracts are transparent or not, consumers pay a small cost $\varepsilon \simeq 0$ to enter the market and to match with a seller. In contrast to Diamond (1971) and the literature on searching costs, this cost is very small and insignificant because it is paid after having observed the offers. However, it is useful in order to exclude equilibria in which consumers who enter the market reject without reading with some positive probability. Obviously, consumers can reject after reading: they will do that if they will read low-quality terms and are charged more than L. Once each consumer has matched with a seller, she decides whether to accept or reject the

offer or, if the offer is not transparent, to read terms at some cost $\rho > 0$. Then, the game ends if one-shot; otherwise, consumers who have read and reject the offer can match with other sellers in future periods. More formally, consumers choose at one information set if the selected offer is transparent, and at two different information sets otherwise. Precisely, if the offer is made transparent consumers observe price and term quality of each offer at the first information set. Then, consumers willing to enter the market pay the entry cost ε, match with a seller and decide whether to buy. If the offer is not transparent, consumers observe only the price at the first information set, and may reach the second information set after having paid both the entry cost ε and the reading cost ρ. Then, a strategy for a consumer specifies the contract she has chosen: whether she accepts or rejects if the contract is transparent; whether she accepts, rejects or read an obscure offer at her first information set, and (in the last case of reading) whether she accepts or rejects at her second information set.

We assume that both sellers' and consumers' utility over time are affected by the same discount factor $\alpha \in [0, 1]$: it allows for a repeated game of N rounds or periods where each consumer can match with only a seller each round. As well as in the Green and Porter class of models (Green and Porter, 1984; Abreu, Pearce and Stacchetti, 1986), firms cannot observe one another's output (or pricing) actions nor infer them with certainty from public information. To simplify the analysis we also assume that sellers cannot change their contracts over time. Consumers cannot observe other consumers' decisions, and cannot cooperate: it excludes any free-riding implication on the side of consumers.

We also assume that consumers are homogeneous and share the same preferences on quality, and value $L > 0$ a low quality contract and $H > L$ a high quality contract; it is common knowledge. We define r as the probability of consumers to read fine print. Given the asymmetric information about the seller's type, consumers always infer that any deviation from a putative equilibrium with $D = 0$ comes from a seller offering low quality; as a consequence, they reject any off-equilibrium path offer charging more than their evaluation for a low quality good (L). It comes straightforward from the assumption that consumers are sophisticated. Even if the offer is not transparent, consumers are supposed to experience the quality of the good for free after purchase. A consumer who rejects without reading earns $-\varepsilon$; a consumer who accepts an offer at a price p without reading earns $Q - p - \varepsilon$: where $Q \in H, L$ is her evaluation for the good of a given term quality. A reading consumer earns ρ less in each eventuality. Trivially, the consumer earns $Q - p - \varepsilon$ if she accepts a transparent offer. On the other hand, a seller's payoff from trade with a given consumer is the difference between his revenue and his costs: where revenue is price (p) and costs are incurred by offering high quality terms and/or by disclosing the offer. His total payoff corresponds to the integral of his payoffs from trading with all his customers. We use an Efficiency Condition throughout the article: $H - c - min\{\rho, \delta\} - \varepsilon > L > 0$. The left-hand inequality implies that it is socially efficient for players to offer high quality contracts. If $\delta \leq \rho$ we will refer to equilibria in which sellers disclose and offer high quality terms as efficient. The right-hand side inequality simply implies that trade is mutually profitable

even if the term quality offered is low, and excludes no trade equilibria. We will solve both games by searching for symmetric subgame perfect Nash equilibria ('equilibria'). Equilibria will be symmetric in the sense that all sellers will make the same offer or mix between the same offers. At the same time, symmetry also implies that a consumer matches with a given seller proposing a given offer with the same probability, and attaches the same probability that any seller offers high quality, given the price charged: this will simplify the analysis for the competitive market.

Obviously, in the extreme case of $\rho = 0$, consumers always read in equilibrium and reject any $p > L$ if term quality turns out low. Thus, no difference arises between theone-shot game and the repeated game as in the last case sellers must offer $\{c, h, 0\}$ in the first round with all consumers accepting. Consumers get $H - c - \varepsilon$, whereas sellers get 0: such equilibrium is efficient. Trivially, a similar outcome would characterize the game if $\delta = 0$. From now on we will assume that $\rho > 0$ and, to make calculations as simple as possible, we will omit the entry cost ε.

3 Results

In this section we assume there is a fixed number $N > 2$ of sellers. N is an exogenous variable and allow for sellers getting positive profits in equilibrium. It makes the analysis cover a large spectrum of real markets. The assumption of sellers making positive payoffs, used by Gabaix and Laibson (2006) as well, is useful in order to understand whether real firms, making in fact small but positive prots, have an interest to disclose or not. However, to make the analysis as simple as possible and without affecting the main message, contrary to Gabaix and Laibson (2006), we assume that sellers do not differ from each other in terms of reputation or size, so that they share the market equally.

LEMMA 1 *a. A disclosing seller must offer high-quality terms.*
b. A seller cannot offer $(p, h, 0)$ *in equilibrium without offering* $(p, l, 0)$*, and viceversa.*

PROOF Proof is given a contrario.

About part a., suppose that a disclosing seller offers low-quality terms. Consumers who freely read low-quality terms would reject that contract if charged more than L, and the seller can profitably deviate to non-disclosing at the same price to economize on the related disclosing cost.

Part b. excludes both (i) equilibria in pure strategies with a seller offering a non-transparent contract and (ii) equilibria in mixed strategies where a seller mixes between disclosing and non disclosing. About (i), on the one hand, seller(s) cannot offer $\{p, h, 0\}$ with $p \leq H$: consumers would accept without reading, and seller(s) would profitably deviate to offering low-quality terms. On the other hand, no equilibrium can exist for seller(s) offering $\{p, l, 0\}$: consumers would not accept at any $p > L$, and the Efficiency Condition states that seller(s) would profitably deviate to disclosing. About (ii), we first exclude that a seller

offers high quality terms and mixes between disclosing and non-disclosing. Consumers would accept any offer without reading for any $p \leq H$, and the seller would profitably deviate to not disclosing and offering low-quality terms at the same price. Suppose that a seller mixes between $\{p, h, d\}$ and $\{q, l, 0\}$ with $p \neq q$. He can charge up to H if he discloses and no more than L if he does not: the Efficiency Condition states that he strictly prefers to disclose. Suppose that a seller does not disclose and offers $\{p, h, 0\}$ without offering $\{p, l, 0\}$: consumers always accept without reading at any $p \leq H$ and the seller would profitably deviate to offering low-quality terms at the same price. In sum, a seller must mix between $\{p, l, 0\}$ and $\{p, h, 0\}$ and must be indifferent between the two offers. Such an equilibrium cannot exist for consumers always reading or accepting without reading because the seller would never offer respectively $\{p, l, 0\}$ or $\{p, h, 0\}$. Then, consumers must mix between reading and accepting without reading in this class of equilibria. At the same time, the small entry cost prevents consumers from rejecting without reading with any positive probability in equilibrium. ■

Note that consumers entering the market in round 1 never reject without monitoring because they would lose the entry cost, which will be omitted from calculation to simplify the analysis.

Since consumers who buy are assumed to leave the market and those who remain into the market cannot cooperate, sellers' reputation plays no role in the game and is not taken into account.

Proposition 1 *In a competitive market:*

a. If $\delta \leq \rho$, sellers offer $\{c + \delta, h, d\}$ in equilibrium, and consumers accept earning $H - c - \delta$.

There also exists an equilibrium in which sellers mix between disclosing and not disclosing earning 0, and consumers accept only from those who disclose, earning a payoff equal to $H - c - \delta$. These equilibria are efficient.

If $\delta > \rho$ and $H - L - c - \delta$, sellers offer $\{c + \delta, h, d\}$ in equilibrium, earning 0, and consumers accept earning $H - c - \delta$. If $H - L < c + \delta$, sellers offer $\{0, l, 0\}$ in equilibrium, and consumers accept earning L. These equilibria are inefficient. No other equilibrium exists if the reading cost are large enough.

b. In every other equilibrium and for $\delta \gtrless \rho$:

If $\rho \leq \frac{[(H-c-\delta)(1-\alpha)-H+L]^2}{4(H-L)}$ SELLERS MIX BETWEEN $\{p, l, 0\}$ AND $\{p, h, 0\}$ WITH $p > c$, *and consumers mix between reading and accepting without reading. Both sellers and consumers earn positive payoffs. This class of equilibria is inefficient. This equilibrium exists only if α is small enough.*

PROOF Sellers who enter the market cannot reject without reading in equilibrium because they would lose the entry cost. No equilibrium would exists for consumers always reading because sellers should always ofefr high quality, and consumers would profitably deviate to accepting without reading. As aWhat

said and the assumption that sellers cannot change their offer over time together imply that trade must occur in period 1 in every pure-strategy equilibrium, and the analysis corresponds to a one-shot game.

a. Suppose $\delta \leq \rho$. In every pure strategy equilibrium a disclosing seller must offer high-quality terms and charge $c + \delta$. Conversely, this equilibrium exists because no seller can profitably deviate to a non-transparent offer if consumers infer that it contains low quality terms (see the Efficiency Condition); he has no interest to raise the price over $c + \delta$ if he discloses because he would not trade. Trade is efficient according to the Efficiency Condition because sellers offers high-quality terms and consumers do not pay the reading cost. However, given that sellers waste the disclosure cost, the outcome is not efficient, unless $\delta \simeq 0$.

Suppose $\delta > \rho$. Proof of the equilibria in pure strategies follows straightforward from what said above and the Efficiency Condition together.

Lemma 1.a excludes any other equilibrium in pure strategies.

b. Lemma 1b. again implies that the only case to analyze is that with sellers colluding and mixing between high- and low-quality terms and consumers mixing between reading and accepting without reading. Suppose first that $\delta \leq \rho$.

In period 1 consumers would get $\gamma H + (1-\gamma)L - p$ from accepting without reading; about their payoff from reading they take into account that they have other $N-1$ sellers potentially to match with. In the last round, this payoff is simply $\gamma(H-p) - \rho$; whereas reading in period $N-1$ yields a payoff of $\gamma(H-p) + (1-\gamma)V - \mu$, where V is the expected value that consumers may get from matching with any other seller next round. Note that the value of V does not decreases round by round even if the number of sellers left to match decreases because symmetry implies that each seller offer high quality terms with the same probability. Indifference in period N-1 then requires that

$$V = \gamma H + (1-\gamma)L - p = \gamma(H-p) + (1-\gamma)V - \rho$$

V must be non-negative, else consumers could profitably deviate to rejecting; and the buyer's return after rejecting both sellers must be 0. It implies that consumers would weakly prefer to accept than to read in the last round.

It follows that in round $N-2$ the expected payoff of monitoring would be $\gamma(H-p)+(1-\gamma)[\gamma(H-p)+(1-\gamma)V-\mu]-\mu = [\gamma(H-p)-\mu][1+(1-\gamma]+(1-\gamma)^2 V$; and, going backward to round 1, the expected payoff of monitoring can be approximated to $\frac{\gamma(H-p)-\rho}{1-\alpha(1-\gamma)}$, meaning that consumers are indifferent between reading and accepting without reading in any round $N-i$ (with $i \geq 1$) and always accept in round N iff

$$\gamma H+(1-\gamma)L-p = \frac{\gamma(H-p)-\rho}{1-\alpha(1-\gamma)} \leftrightarrow p = \frac{(1-\gamma)L + \rho - \alpha(1-\gamma)\left[\gamma H + (1-\gamma)L\right]}{(1-\gamma)(1-\delta)},$$

and do not deviate to rejecting iff

$$\gamma \in \left[\frac{1-\Delta}{2}, \frac{1+\Delta}{2}\right] :$$

where$\Delta = \sqrt{1 - \frac{4\rho}{H-L}}$ requires $\rho \leq (H-L)/4$.

A seller offering high quality sells to $1/N$ consumers who match with in round 1; for next rounds, he sells to those consumers who have read in previous rounds and found low quality (pr. $r(1-\gamma)+r^{\mathbf{2}}(1-\gamma)^{\mathbf{2}}+...+r^N(1-\gamma)^N$), getting a total profit that can be approximated to $\frac{p-c}{N}\frac{1}{1-\alpha r(1-\gamma)}$; conversely, if he offers low quality he will sell to those consumers who do not read (pr. $1-r$) in round 1, to those consumers who have read in previous rounds and found no quality providing that they do not read anymore in every other round $i = 2, 3, ..., N-1$ (pr. $1-r+r(1-r)(1-\gamma)+r^{\mathbf{2}}(1-r)(1-\gamma)^{\mathbf{2}}+...+r^{N-1}(1-r)(1-\gamma)^{N-1}$); and finally to those who he matches with in last round, providing that they weakly prefer to accept without reading (pr. $r^N(1-\gamma)^N$), getting a total profit than can be approximated to $\frac{p}{N}\frac{1-r}{1-\alpha r(1-\gamma)}$. Thus, sellers are indifferent iff $r = c/p < 1$; for sellers never offer high quality in an equilibrium if $p \leq c$, requiring that

$$\alpha < \frac{(1-\gamma)(L-c)+\rho}{(1-\gamma)\left[\gamma H+(1-\gamma)L-c\right]} < 1$$

Consumers would deviate to a seller offering $\{z', l, 0\}$ if

$$L - z' > \gamma H + (1-\gamma)L - p$$

and that seller would earn no more than $p - \gamma(H-L)$.
On the other hand, consumers would deviate to a seller offering $\{z'', H, \delta\}$ if

$$H - z'' > \gamma H + (1-\gamma)L - p$$

and that seller would get strictly less than $(H-L)(1-\gamma)+p-c-\delta$.
Efficiency Condition implies that

$$(H-L)(1-\gamma)+p-c-\delta > p-\gamma(H-L)$$

so that a sufficient condition to exclude any deviation on the side of sellers would be

$$(H-L)(1-\gamma)+p-c-\delta \leq \frac{p-c}{N}\frac{1}{1-\alpha r(1-\gamma)} \tag{1}$$

Condition (1) is always satisfied if

$$(H-L)(1-\gamma)+p-c-\delta \leq 0,$$

requiring

$$\gamma \in \left[\frac{(H-c-\delta)(1-\alpha)+H-L-W}{2(H-L)}, \frac{(H-c-\delta)(1-\alpha)+H-L+W}{2(H-L)}\right],$$

where $W = \sqrt{\left[(H-c-\delta)(1-\alpha)-H+L\right]^2 - 4\rho(H-L)}$ is well defined iff $\rho \leq \frac{\left[(H-c-\delta)(1-\alpha)-H+L\right]^2}{4(H-L)} < \frac{H-L}{4}$.

Note that

$$\left[\frac{(H-c-\delta)(1-\alpha)+H-L-W}{2(H-L)}, \frac{(H-c-\delta)(1-\alpha)+H-L+W}{2(H-L)}\right] \subset \left[\frac{1-\Delta}{2}, \frac{1+\Delta}{2}\right]$$

so that this equilibrium exists, and continuity also implies that the same result still holds for some $\delta > \rho$.

Only the equilibrium in which sellers disclose is efficient (see Efficiency Condition); trade, however, is efficient as well only if $\delta \to 0$. ■

4 Discussion

The game is characterized by efficient equilibria in pure strategies: on the one hand, if either $\delta \leq \rho$ or $H - L > c + \delta$ sellers offer a transparent contract with high-quality terms charging $c + \delta$, and consumers accept; on the other hand, sellers offer low-quality terms without disclosing and charge 0 if $H - L < c + \delta$. Consumers earn $\max\{H - c - \delta, L\}$, whereas competitive sellers earn 0. The existence of these equilibria depends on consumers' beliefs that any off-equilibrium path offer contains low-quality terms.

If ρ is small enough, the model also allows for a class of mixed-strategy equilibria without disclosure if the discount factor α is small enough: sellers earn positive payoffs in this class of equilibria with consumers earning strictly less than $H - c - \delta$. The last condition implies that an interval of obscure equilibria in which sellers collude in order to increase their profits is surprisingly feasible only in the presence of a discount factor close to 0. These equilibria are all admissible and cannot be reduced by using some equilibrium refinement, like strategic stability or properness, because non-disclosing sellers prefer the consumers to believe that the term quality offered is high and want to trade at high prices, regardless of the quality of terms they offer. Nevertheless, the main results of the article in terms of efficiency and regulation are not affected by a possible selection of some equilibria.

Viceversa, a high discount factor does not favor sellers' collusion, even though potentially convenient in terms of profits if $\delta \leq \rho$: sellers should charge a too low price in a putative equilibrium cartel, so that deviating to disclosing in round 1 will turn out profitable. These results depend on the peculiar nature of the contract offered that can be considered as a good itself: e.g. consumers' evaluation of a transparent high-quality contract is higher than the evaluation of an obscure high-quality contract. At the same time, given the assumption that no other consumer enters the market after period 1, the potential benefit of colluding reduces over time even in the presence of a discount factor equal to 1; at the same time, price charged in a putative equilibrium without disclosure is lower in the repeated game than in the one-shot game, thus making cheating more profitable.

Trivially, similar results would characterize the game if we allow consumers to show different preferences over time, by assuming that they are more or less patient to visit different shops in sequence and period by periods.

Horizontal collusion among firms working in the same industry provokes a market failure and allow for some reugulation in order to prevent inefficiency and to protect consumers. The peculiar result we find in the model is that long-lasting sellers cannot collude in equilibrium if collusion consists in making consumers unaware of contract terms; vice versa, this incentive exists for short-term sellers who are able to trade at higher prices in equilibrium if they do not disclose. It changes the conventional argument about public intervention through regulation that does not seem to be necessary in the former case (high discount factor), but in the last (low discount factor).

5 Conclusion

We have provided a simple bargaining model examining the controversial issue of contract disclosure whenever the offer comes from sellers to consumers on a take-it-or-leave-it basis. Our results may be of some help in the debate about different legal regimes possibly applying to contracts of adhesion: precisely, we reject the hypothesis that sellers are more prone to collude by offering obscure contracts with potentially inefficient fine print when they are short-termed and show very low discount factor.

We now discuss several natural extensions of this work. First it is natural to ask how the results would be affected assuming an imperfect competitive market with one or more leading firms and other less known or less important firms that consumers may match with by paying a positive search cost. In this case, which looks like a variant of the Diamond's (1970) model, there may be conditions for this market being characterized by the same equilibria we found for the competitive market, but with the leading firm charging higher prices, tending to the monopoly level. Another natural extension may consist of introducing heterogeneity among consumers, who may differ either in their ability to read or in their preferences on quality. Assuming that consumers face different reading costs (see Hermalin et al., 2007), according to their ability to understand the term content, would make it feasible to have equilibria in which some consumers facing a given reading cost mix between reading and accepting without reading and those consumers facing higher or lower reading costs respectively accept without reading or read.

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