The Pros and Cons of Consumer Protection

Preface

The conference "The Pros and Cons of Consumer Protection", held in Stockholm November 11, was the tenth in the series of Pros and Cons conference arranged by the Swedish Competition Authority. Leading experts from around the world brought different perspectives to the theme and senior officials from competition authorities acted as discussants. This volume collects the five papers that formed the base of an inspiring and well-attended conference. The lively debate and many appreciative comments I heard at the conference is testimony of the high professional standard of the contributions and of their relevance and timeliness for competition and consumer policy.

I would like to express my sincere gratitude to all contributing authors, to the discussants and to the moderator of the conference, Bill Kovacic. I would also like to thank those at the Swedish Competition Authority who have worked with the project, Sten Nyberg who managed the project and acted as editor, Saba Zarrani, who assisted with the organization of the conference and Kristina Evensen who assisted in producing this conference volume.

Stockholm, March 2012

Dan Sjöblom
Director General

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The speakers

Oren Bar-Gill is a Professor of Law and Co-Director of the Center for Law, Economics and Organization at the New York University School Of Law. His scholarship focuses on the law and economics of contracts and contracting. Bar-Gill's publications include: "Consent and Exchange" (with Lucian Bebchuk), which appeared in the Journal of Legal Studies (2010); "The Law, Economics, and Psychology of Subprime Mortgage Contracts," which appeared in the Cornell Law Review (2009); "The Prisoners' (Plea Bargain) Dilemma" (with Omri Ben-Shahar), which appeared in the Journal of Legal Analysis (2009); "Making Credit Safer" (with Elizabeth Warren), which appeared in the University of Pennsylvania Law Review (2008); "Bundling and Consumer Misperception," which appeared in the University of Chicago Law Review (2006); "Credible Coercion" (with Omri Ben-Shahar), which appeared in the Texas Law Review (2005); "Seduction by Plastic," which appeared in the Northwestern University Law Review (2004); and "The Law of Duress and the Economics of Credible Threats" (with Omri Ben-Shahar), which appeared in the Journal of Legal Studies (2004).

Bar-Gill's recent work focuses on consumer contracts. In 2011, Bar-Gill was awarded the prestigious Young Scholar Medal by the American Law Institute, in recognition of his work on consumer contracts.

Bar-Gill joined the New York University School of Law faculty in January 2005 from Harvard University, where he was a Fellow at the Society of Fellows, as well as an Olin Fellow at Harvard Law School. Bar-Gill holds a B.A. (economics), LL.B., M.A. (law & economics) and Ph.D. (economics) from Tel-Aviv University, as well as an LL.M. and S.J.D. from Harvard Law School. Bar-Gill served in the Israeli JAG, from 1997-1999, where he participated in criminal, administrative and constitutional proceedings before various courts including the Israeli Supreme Court and the IDF Court of Appeals.

Paul Heidhues is Full Professor and Lufthansa Chair in Competition and Regulation at ESMT in Berlin, Germany. He has received his PhD from Rice University in 2000, and previously held positions as a Research Fellow at the WZB (Berlin), Associate Professor for Economic Theory at Bonn University, as well as visiting positions at University of California-Berkeley, University of Pittsburgh, and Massachusetts Institute of Technology. He has worked on various topics in Industrial Organization and Competition Policy such as input-market bargaining power, merger control, and collusion. Recently, much of his work focuses on the functioning of markets when consumer are partly driven by psychological factors – such as social preferences, loss aversion, time-inconsistency, or naivete – that the classic consumer model abstracts from.

Professor Stucke brought 13 years of litigation experience when he joined the University of Tennessee College of Law faculty in 2007. As a trial attorney at the U.S. Department of Justice, Antitrust Division, he successfully challenged anticompetitive mergers and restraints in numerous industries, and focused on policy issues involving antitrust and the media. As a Special Assistant U.S. Attorney, he prosecuted various felonies and misdemeanors. As an associate at the law firm Sullivan & Cromwell, Professor Stucke assisted in defending Goldman Sachs, CS First Boston, and Microsoft in civil antitrust litigation, and was presented two awards by The Legal Aid Society for his criminal appellate and defense work.

Professor Stucke is currently a Senior Fellow at the American Antitrust Institute; he chaired a committee on the media industry that drafted a transition report for the incoming Obama administration. In 2009, Professor Stucke was elected as a member to the Academic Society for Competition Law (ASCOLA), appointed to the advisory board of the Institute for Consumer Antitrust Studies, and was asked to serve as one of the United States' non-governmental advisors to the International Competition Network.

In 2010, Prof. Stucke lectured as a Fulbright Scholar in the People's Republic of China. His article, "Behavioral Economists at the

Gate: Antitrust in the Twenty-First Century," received the 2007 Jerry S. Cohen Memorial Fund Writing Award for the best antitrust article. His scholarship has been cited by the OECD, competition agencies, and policymakers.

Mark Armstrong is Professor of Economics and Fellow of All Souls College at the University of Oxford. He is a Fellow of the Econometric Society and of the British Academy. He is currently an editor at the Rand Journal of Economics. He has published broadly in the areas of industrial organization and the economics of incentives, with a particular focus on regulation, competition and consumer policy, price discrimination, and consumer search.

Dr. Matthew Bennett is the Director of Economics at the Office of Fair Trading. Matthew is responsible for the Economic Policy, Financial Analysis, Statistics and Econometric teams within the OFT. This responsibility includes supervising the economic review of OFT cases, commissioning economic research and developing the OFT's economic approach to competition and consumer policy. He has been active on both the consumer side (including cases in Banks and Gyms) and the competition side (including several ongoing Chapter I and II investigations).

Matthew joined the OFT from LECG where he was a Principal directing competition cases. Cases that he worked on during this time include the Aer Lingus / Ryan Air merger, Microsoft, French Mobiles and Bananas. Prior to this he worked for the UK Communications Regulator OFCOM within the Chief Economist's team. Matthew gained his Economics doctorate at Warwick University and completed a Post-Doctorate in Toulouse, where he studied the interaction between competition and regulation. He has published a number of papers in the area of competition and consumer policy, most recently on the law and economics of RPM and Information Exchange.

1   Introduction

By Sten Nyberg

Consumer welfare is a central objective for both consumer protection and competition policy where the former targets the consumer and the latter market performance. These policy areas complement each other but the difference in approach can also result in conflicting policies, and a need for coordination. The conference The Pros & Cons of Consumer Protection, focused on consumer protection, competition policy and the implications of recent developments in behavioral economics, as well as analyses based on information economics, for these policy areas.

Oren Bar-Gill from New York University discusses whether the benefits of competition that obtain in a world of rational consumers also extend to world with imperfectly rational consumers. He argues that sellers will adapt their behavior and may exploit consumer misperceptions and that the circumstances under which firms have incentives to educate consumers are rather limited. In fact, competition may in some cases actually work to exacerbate consumer misperceptions. Firms, may for instance increase the complexity of their pricing schemes to make comparisons more difficult. An important policy tool for addressing behavioral market failures of this type is a well designed disclosure regulation. Policies mandating disclosure of information, including information about how consumers use the product, may improve welfare. Bar-Gill discusses both simple disclosure policies targeting consumers as well as more complex disclosure policies aimed at intermediaries.

Paul Heidhues, of the European School of Management and Technology, presented joint work with Botond Köszegi and Takeshi Murooka on consumer misperception and deception in competitive credit markets. The authors cite ample evidence on consumer misperceptions in financial markets, including home mortgage,

insurance and retail banking. They proceed to discuss how firms may set fees to exploit consumer misperceptions about their own behavior, or the features of the contracts they are facing, and note that competition in many cases does not "provide safety in markets". Firms may have insufficient incentives to disclose, or unshroud, the true costs of contracts, which is more likely to be the case in concentrated markets. Moreover, while competition for boundedly rational customers' patronage may drive firms to offer up-front payments compensating these consumers for the ex-post exploitation, the authors argue that in many financial consumer markets the scope for such payments may be severely limited by the presence of "arbitrageurs", who are interested in up-front payments but perhaps not in using the service. It then also follows that the argument that the cost of consumer protection policies ultimately will be passed on to consumers does not hold up. Consequently, consumer protection policies may have an important role to play in improving consumer welfare. That said, there are several pitfalls and polices need to be assessed on a case-by-case basis.

That competition and consumer protection policies are interrelated is also emphasized by **Maurice Stucke**, from the University of Tennessee, who discusses the implications of bounded rationality and imperfect willpower on the part of consumers for our conception of competition, its effect on consumers, and ultimately for the role of consumer protection and competition policy. Stucke also considers bounded rationality on the part of firms and the government but focuses on the case where firms are relatively more rational than consumers. While boundedly rational consumers can be subject to behavioral exploitation in competitive markets, such markets can also provide remedies for behavioral consumer biases, such as commitment devices for time-inconsistent consumers. Stucke argues that competition and consumer protection policies can improve consumer welfare but should not be viewed in isolation. The former serve to promote variety and informed consumer choices and the latter to prevent behavioral exploitation. Too far reaching intervention risks to limit behavioral freedom, lead to creeping

authoritarianism and learned helplessness. Moreover, policy interventions require that authorities, that may be boundedly rational themselves, can identify the problems and should also factor in the value of the consumers' freedom to choose.

Mark Armstrong from Oxford University discusses information based models of consumer protection without behavioral biases. Consumers may search for information about price and product features themselves or rely on information provided by the market, e.g. by sellers. In the former case, certain sales tactics may harm consumers. Armstrong discusses the effects of consumer protection policies in three types of contexts; consumer search markets, rushed decision making and commission based sales. In the first case, consumer protection policies that aim to protect less informed consumers against high prices may have the perverse effect of raising market prices on average. The reason is that the policy reduces consumers' search intensity, which softens competition among firms. Armstrong shows that rushed sales tactics can lead to both higher prices and poor matches between buyers and sellers and thus consumer protection policies, such as mandated cooling off periods can be welfare improving. Finally, commissions to intermediaries advicing consumers about product choice may well lead to higher prices which may motivate policies restricting such commissions.

Designing policy interventions to protect consumers is often difficult and contingent on the characteristics of the specific market. Also, as **Matthew Bennett** from the Office of Fair Trading points out, markets can be self-correcting. Consumers may learn, markets self-regulate, and other parties could profit from correcting the problem. In addition, policy intervention may itself be distortive. It is therefore useful to establish sound economic principles to help determine, in a systematic way, whether a policy intervention has merit. Bennett examines these issues in the context of assessing the effects of contingent charges, such as overdraft fees, and outlines four economic principles for such an assessment: Whether consumer switching in the primary, or secondary, market constrain firms,

whether the charges are harmful for consumers and whether there are consumer benefits potentially outweighing the harm. While the principles could be interpreted as consistent with the letter of the applicable UK legislation, a recent precedent seems to provide little scope for legal action against contingent charges.

Taken together these contributions provides a broad overview of current research in law and economics with bearing on consumer protection. The conference also greatly benefited from many insightful comments from the discussants as well as from the audience. Some of the discussants' comments are available at the Swedish Competition Authority's web page, www.konkurrens-verket.se.

2   Competition and Consumer Protection: Behavioral Economics Account

By Oren Bar-Gill[*]

2.1   Introduction

It is widely believed that competition among sellers ensures efficiency and maximizes welfare. This belief is manifested, for example, in antitrust law and its focus on monopolists and cartels. In addition, competition is supposed to help consumers by keeping prices low. Do these benefits of competition extend to a world – the real world – with imperfectly rational consumers?

The answer to this question, I argue, should follow from a two-stage analysis. The first stage of the analysis takes consumer misperception, concerning product benefits and prices, as given or exogenous. The second stage of the analysis allows for endogenous perceptions and misperceptions.

The first stage of the analysis is conducted in Section 3.2.2. Under the exogenous misperceptions assumption, competition fails to promote efficiency and to protect consumers. The reason is straightforward: Competition forces sellers to maximize the perceived (net) consumer benefit. When consumers accurately perceive the (net) benefit, competition will help consumers. But when consumers are biased, competition will maximize the perceived (net) benefit at the expense of the actual (net) benefit. Focusing on price: When consumers are rational, sellers compete by offering a lower price. When consumers are imperfectly rational, sellers compete by designing pricing schemes that create an appearance of a lower price. The underlying problem is located at the demand side of the market – imperfectly rational consumers generate biased demand. Competition forces sellers to cater to this biased demand. The result is what I call a behavioral market failure.

Modern, neoclassical economics recognizes that even perfectly competitive markets can fail. The standard market failures are attributed to externalities and to asymmetric information. Behavioral economics adds a third market failure. The behavioral market failure, with its emphasis on misperception and bias, is a direct extension of the imperfect information problem. Rational consumers form unbiased estimates of imperfectly known values. Faced with similarly limited information, imperfectly rational consumers form biased estimates. Unbiased estimates can cause market failure. Biased estimates can cause a more severe market failure.

With exogenous consumer misperception, competition does not help. But does it hurt? A monopolist can similarly be expected to design products, contracts and pricing schemes to maximize the perceived (net) benefit from its products. But a monopolist may also decide to take the high road and offer good products, rather than products that look good to the biased consumer. In a competitive market, sellers have no choice but to target product design to the psychology of consumers. A high-road seller who offers what she knows to be the best product will lose business to the low-road seller who offers what the consumer mistakenly believes to be the best

product. Put bluntly, competition forces sellers to exploit the biases and misperceptions of their customers.

The first stage of the analysis takes consumer misperception as given and argues that competition does not help in this context. In Section 2.3, I turn to the second stage of the analysis and endogenize misperception. Consumer perceptions and misperceptions are not fixed. They evolve over time. Most importantly, for present purposes, sellers in a competitive market invest in influencing consumer perception. In some cases, competition will induce sellers to correct consumer mistakes, thus enhancing efficiency and increasing consumer surplus. Unfortunately, there are limits to these mistake-correction forces. Competition will not always work to reduce consumer misperception, and, in certain cases, it might even work to exacerbate misperception.

Section 2.4 briefly addresses the welfare implications of the preceding behavioral economics analysis. In particular, I note that sellers, when facing imperfectly rational consumers, can be expected to artificially increase the complexity of their products, contracts and pricing schemes. This increased complexity raises the costs of comparison-shopping and thus hinders competition. The behavioral market failure weakens the forces of competition. It also distorts the remaining, weakened forces of competition. As explained above, competition will work to maximize perceived (net) benefits, rather than actual (net) benefits. This means that sellers will reduce salient prices and compensate by increasing non-salient prices. Pricing that is salience-based, rather than cost-based, results in skewed incentives – for product choice and for product use.

Section 2.5 turns to policy, focusing on the potential to enhance competition, and protect consumers, through better-designed disclosure regulation – disclosure regulation that directly responds to the imperfect rationality problem. As a preliminary matter, I note that the object of disclosure mandates should be broadened. While existing disclosure mandates largely focus on product attribute information, I argue that more attention should be given to the

disclosure of product use information – information on how the product will be used by the consumer.

The imperfect rationality of consumers suggests that, to be effective, disclosure regulation must adopt one of the following two strategies. The first focuses on simple disclosures targeting consumers. The idea is to design aggregate, one-dimensional disclosures that would facilitate comparison between competing products. The second strategy reconceptualizes disclosure as aimed not at imperfectly rational consumers, but at sophisticated intermediaries. Accordingly, this disclosure could be more comprehensive, and more complex.

Before proceeding further, an important qualification is in order: The behavioral economics model, even more than its rational choice counterpart, is context dependent. While the analysis and discussion below are often stated in general terms, implementation must be market specific. The severity of the behavioral market failure, and the ability of competition to mitigate the welfare costs of the behavioral market failure, will vary from market to market. The viability of the proposed approach to disclosure regulation will similarly vary from market to market, as will the optimal design of the disclosure regime. This chapter focuses on general themes, leaving the important market-specific analysis to other work. (See, e.g., Bar-Gill, 2004; Bar-Gill, 2009; Bar-Gill and Stone, 2009.)

2.2   Exogenous Misperceptions

In this Section, I take consumer misperception as given, and study the effects of misperception on market outcomes. The basic claim is that sellers operating in a competitive market will design their products and pricing schemes in response to consumer misperception – to the detriment of consumers. Market forces demand that sellers be attentive to consumer psychology. Sellers that ignore consumer biases and misperceptions will lose business and forfeit revenue and profits. Over time, sellers that remain in the

market, profitably, will likely have adopted product features and pricing schemes that optimally respond to the psychology of their customers.

A. Framework of Analysis

It is useful to start by reciting the standard, rational choice framework. This standard framework will then be adjusted to allow for the introduction of consumer biases and misperceptions. Juxtaposing the standard and behavioral frameworks will help compare market outcomes under the two models.

In the rational choice framework, a consumer product provides the consumer with a set of benefits $(b_1, b_2, \dots)$ in exchange for a set of prices $(p_1, p_2, \dots)$, while imposing on the seller a set of costs $(c_1, c_2, \dots)$. It is useful to think about the total expected benefit $B(b_1, b_2, \dots)$, the total expected price $P(p_1, p_2, \dots)$, and the total expected cost $C(c_1, c_2, \dots)$. The number of units sold, which will be referred to as the demand for a seller's product, D, is increasing in the benefit that the product provides, B, and decreasing in the price that the seller charges, P. The demand function is, therefore, $D(B, P)$, with $\frac{\partial D}{\partial B} > 0$ and $\frac{\partial D}{\partial P} < 0$. The seller's revenue, R, is given by the number of units sold, i.e., the demand for the product, multiplied by the price per unit: $R(B, P) = D(B, P) \cdot P$. And the seller's profit, Π, is equal to revenue minus cost: $\Pi(B, P, C) = R(B, P) - D(B, P) \cdot C = D(B, P) \cdot (P - C)$.

When consumers are imperfectly rational, suffering from biases and misperceptions, this general framework must be extended as follows: In addition to the actual benefits $(b_1, b_2, \dots)$, there are perceived benefits $(\hat{b}_1, \hat{b}_2, \dots)$, which are potentially different from the actual benefits. And there is a perceived total expected benefit $\hat{B}(\hat{b}_1, \hat{b}_2, \dots)$, which is potentially different from the actual total expected benefit $B(b_1, b_2, \dots)$. Similarly, in addition to the actual prices $(p_1, p_2, \dots)$, there are perceived prices $(\hat{p}_1, \hat{p}_2, \dots)$, which are potentially different from the actual prices. And there is a perceived

total expected price $\hat{P}(\hat{p}_1, \hat{p}_2, \dots)$, which is potentially different from the actual total expected price $P(p_1, p_2, \dots)$. Demand is now a function of perceived benefits and prices, rather than of actual benefits and prices: $D(\hat{B}, \hat{P})$, with $\frac{\partial D}{\partial \hat{B}} > 0$ and $\frac{\partial D}{\partial \hat{P}} < 0$. Revenues are a function both of perceived benefits and prices and of the actual price: $R(\hat{B}, \hat{P}, P) = D(\hat{B}, \hat{P}) \cdot P$. And so are profits: $\Pi(\hat{B}, \hat{P}, P, C) = R(\hat{B}, \hat{P}, P) - D(\hat{B}, \hat{P}) \cdot C = D(\hat{B}, \hat{P}) \cdot (P - C)$.

Before proceeding further, the relationship between imperfect information and imperfect rationality should be clarified. Rational choice theory allows for imperfect information. A divergence between perceived benefits and prices, on the one hand, and actual benefits and prices, on the other hand, is possible also in a rational choice framework with imperfectly informed consumers. The focus here, however, is on systemic under- and overestimation of benefits and prices. Perfectly rational consumers will not have systemically biased beliefs. Imperfectly rational consumers will. The main difference between the rational and imperfectly rational consumer is in how they deal with imperfect information. Rational-choice decisionmaking provides tools for effectively coping with imperfect information. These tools are not available to the imperfectly rational consumer. Instead, he uses heuristics or cognitive rules-of-thumb, which result in predictable, systemic biases and misperceptions.[1]

Sellers strive to maximize profits. To maximize profits sellers must keep costs down and revenues up. Revenues are the product of the number of units sold, or the demand for the product, multiplied by the price per unit. These observations imply two tradeoffs that determine the seller's strategy in a rational choice framework: First, the seller wants to increase the benefits from the product, in order to

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[1] Moreover, while the perfectly rational consumer realizes that she is imperfectly informed, the imperfectly rational consumer might be blissfully unaware of the extent of his ignorance.

increase demand, but increased benefits usually entail increased costs. The seller will increase the benefits, as long as the resulting revenue boost more than compensates for the increased costs. The second tradeoff focuses on the price: a lower price increases the number of units sold, i.e., increases demand, but also decreases the revenue per unit sold. The seller will set prices that optimally balance these two effects.[2]

The tradeoffs that determine a seller's optimal strategy, when facing rational consumers, are muted in the behavioral economics model with imperfectly rational consumers. When perceived benefit is different from actual benefit, a seller may be able to increase demand by raising the perceived benefit, without incurring the added cost of raising the actual benefit. Similarly, when the perceived price is different from the actual price, demand can be increased by lowering the perceived price, while keeping revenue per unit up with a high actual price. Sellers benefit from the divergence between perceived and actual benefits and between perceived and actual prices. They will design their products and prices to maximize this divergence.

A brief note on the objects of misperception: Consumers might misperceive the total benefit from a product and the total price of the product. It is useful, however, to break things down a bit. In particular, it is useful to distinguish between two categories of information and corresponding misperceptions:

(1) Product attribute information and product attribute mistakes – information/mistakes about what the product is

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[2] In addition, certain price dimensions affect how the consumer will use the product and thus the benefit that the consumer derives from the product. These effects also influence the optimal design of products, contracts and prices, as illustrated in subsection B below.

or does, including information/mistakes about the magnitude of different price dimensions.

(2) Product use information and product use mistakes – information/mistakes about how the consumer will use the product or a certain product feature. Clearly, how a product is used will be a function of the product's attributes, but it will also be a function of consumer preferences and other external forces.

As explained below, this distinction between product attributes and use patterns will prove important in evaluating the efficacy of mistake-correction forces (in Section 2.3). It will also be relevant for the policy implications discussed in Section 2.5.

B. A Simple Example

In this subsection, I develop a simple example that illustrates how sellers, operating in a competitive market, adjust their pricing strategies in response to consumer misperception. The skewed pricing will be shown to reduce welfare and hurt consumers.

1. Benefits, Costs and Prices

Consider a credit card contract with two features: (1) a general feature(s) that may include the convenience of holding the card, access to customer service, etc', and (2) a late payment feature. A consumer obtains an annual benefit $B_1 = 7$ from the general feature(s). This benefit is enjoyed by any consumer who holds the card, independent of any use level. Alternatively, we could define a degenerate use level $l_1 = 1$ and a per-use benefit $b_1 = 7$, which generate a total benefit $B_1 = l_1 \cdot b_1 = 7$. Occasionally, the consumer is short on cash and finds it difficult to make the minimum monthly payment. She therefore benefits from the option to pay late – from the late payment feature. Specifically, there are four instances during

the year in which the consumer could benefit from paying late. The benefits from late payment vary from one instance to the other, as detailed in Table 1. These are per-use benefits.

Late Payment #	1	2	3	4
Benefit	5	5	3	1

Table 1: Benefit from Paying Late

When the consumer sees that paying on time is difficult, she considers whether to make an on-time payment despite this difficulty or to pay late. She will pay late when the benefit from paying late (which corresponds to the difficulty of paying on time), as given in Table 1, exceeds the late fee charged by the issuer, as described below. The total benefit to the consumer from late payments, B_2, depends on the per-use benefits and on the use level, i.e., on the number of instances, in which the consumer decides to pay late (l_2): If the consumer pays late once, then $B_2(l_2 = 1) = 5$; if the consumer pays late twice, then $B_2(l_2 = 2) = 5 + 5 = 10$; if the consumer pays late three times, then $B_2(l_2 = 3) = 5 + 5 + 3 = 13$, and if the consumer pays late four times, then $B_2(l_2 = 4) = 5 + 5 + 3 + 1 = 14$. The total benefit from late payments, as a function of the number of late payments, is summarized in Table 2.

Number of Late Payments (l_2)	1	2	3	4
Total Benefit from Late Payments (B_2)	5	10	13	14

Table 2: Total Benefit from Late Payments

The total benefit to the consumer from the credit card is: $B(l_2) = B_1 + B_2(l_2) = 7 + B_2(l_2)$, where $B_2(l_2)$ is determined as specified above.

Now to costs: The issuer incurs a fixed annual cost of 4 – a general account maintenance cost associated with the general feature(s): $C_1 = 4$. The issuer also incurs a variable, or per-use, cost of $c_2 = 2$ per incidence of late payment – the cost of processing a late payment and the added risk of default implied by a late payment. Total costs associated with late payments are: $C_2(c_2, l_2) = l_2 \cdot c_2 = l_2 \cdot 2$. The issuer's total costs are: $C = C_1 + C_2 = 4 + l_2 \cdot c_2 = 4 + l_2 \cdot 2$.

The issuer is contemplating a two-dimensional pricing scheme, including an annual fee (p_1) and a late fee (p_2). The annual fee, which can be interpreted as the price of the general feature, is independent of any use level. Or, if we define a degenerate use level $l_1 = 1$, the annual fee is the per-use price and the total price associated with the general feature is: $P_1(p_1, l_1) = l_1 \cdot p_1 = 1 \cdot p_1 = p_1$. The late fee is the per-use price of the late payment feature. The total price of paying late is a function of this per-use price and of the use level – each year the consumer pays p_2 multiplied by the number of late payments per year, l_2: $P_2(p_2, l_2) = l_2 \cdot p_2$. The total amount that a consumer pays per year is: $P(p_1, l_1, p_2, l_2) = P_1(p_1, l_1) + P_2(p_2, l_2) = p_1 + l_2 \cdot p_2$. To simplify notation, the use-level arguments will sometimes be omitted from the total price functions: $P_1(p_1, l_1) = P_1(p_1) = p_1$, $\quad P_2(p_2, l_2) = P_2(p_2) = l_2 \cdot p_2$, $\quad$ and $\quad P(p_1, l_1, p_2, l_2) = P(p_1, p_2) = p_1 + l_2 \cdot p_2$.

2. Misperceptions

A rational consumer will accurately perceive the benefit, $B = B_1 + B_2$, and the price, $P = P_1 + P_2$. An imperfectly rational consumer might not. For the imperfectly rational consumer, there will be a perceived benefit, $\hat{B} = \hat{B}_1 + \hat{B}_2$, and a perceived price $\hat{P} = \hat{P}_1 + \hat{P}_2$. The perceived benefits and prices will generally diverge from the actual benefits and prices. This divergence will affect the equilibrium pricing scheme.

To see this, the form of consumer (mis)perception needs to be specified. Suppose the consumer accurately perceives the general

benefit from card use, i.e., $\hat{B}_1 = B_1 = 7$ and the amount to be paid in annual fees, i.e., $\hat{P}_1 = P_1 = p_1$. Misperception concerns the benefits and costs of paying late. There are two cases:

Case (1): The consumer mistakenly thinks that she will never experience cash flow problems and thus will never pay late. (Alternatively, the possibility of paying late might never cross the consumer's mind.) The misperceived benefits from late payments are listed in Table 3 (1) below.

Late Payment #	1	2	3	4
Benefit	5	5	3	1
Perceived Benefit	0	0	0	0

Table 3 (1): Perceived Benefit from Paying Late – Case (1)

Case (2): The consumer realizes that she will experience cash flow problems and thus benefit from paying late, but underestimates this benefit. Specifically, assume that the consumer underestimates the benefit from paying late in the second and third instances, as described in Table 3 (2) below.

Late Payment #	1	2	3	4
Benefit	5	5	3	1
Perceived Benefit	5	1	1	1

Table 3 (2): Perceived Benefit from Paying Late – Case (2)

3. Market Outcomes: Distorted Pricing

How will the issuer design the credit card contract? How will the magnitudes of the annual fee (p_1) and late fee (p_2) be

determined? The answer depends on consumer psychology and on market structure. The assumptions about consumer misperception where stated above. As for market structure, I assume that the issuer is operating in a competitive market and thus will set prices that will just cover the cost of providing the credit card.

Recall that the issuer faces a fixed annual cost of 4 and a variable cost of 2 per incidence of late payment. Facing a rational consumer, the issuer will set $p_1 = 4$ and $p_2 = 2$. The (4,2) contract guarantees that the issuer's costs are covered. And it maximizes the net benefit enjoyed by the consumer. With a late fee of 2, the consumer will make three late payments for a benefit of 13 (see Table 2). The total benefit from the card will be $7 + 13 = 20$. The total price will be $4 + 3 \cdot 2 = 10$. And the net benefit will be 10 (= 20 − 10). Any alternative contract will be less efficient.[3]

For example, a lower late fee, say 0.5, would induce the consumer to make four late payments for a total benefit of 14, rather than 13 under the (4,2) contract. But the resulting increase in the annual fee won't be worth the extra unit of benefit. With four late payments, the issuer's total cost would be $4 + 4 \cdot 2 = 12$. Since revenues from late fees will be only $4 \cdot 0.5 = 2$, the issuer will have to charge an annual fee of 10 to break even. With the alternative (10,0.5) contract, the consumer will thus face a total price of $10 + 4 \cdot 0.5 = 12$ and a net benefit of $7 + 14 − 12 = 9$ − lower than the net benefit of 10 under the (4,2) contract.

A higher late fee of, say, 4, would also reduce efficiency. With $p_2 = 4$, the consumer will make two late payments for a total benefit of 10. The issuer's total cost would be $4 + 2 \cdot 2 = 8$. Since revenues

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[3] In this example, because of the discrete nature of the benefit function, there are other contracts that are as efficient as the (4,2) contract. In a more general framework, the (4,2) contract will be strictly more efficient than any other contract.

from late fees, $2 \cdot 4 = 8$, cover all costs, the issuer, operating in a competitive market, will set a zero annual fee. With the alternative (0,4) contract, the consumer will thus face a total price of $0 + 2 \cdot 4 = 8$ and a net benefit of $7 + 10 - 8 = 9$ – lower than the net benefit of 10 under the (4,2) contract.

The efficiency of the (4,2) contract is a result of the general efficiency of marginal cost pricing. A late fee set equal to the issuer's cost from late payment provides optimal incentives for consumers – to pay late only when the benefit to them of late payment exceeds the cost of late payment to the issuer.

The efficient (4,2) contract will *not* be offered to an imperfectly rational consumer. Starting with Case (1), the consumer mistakenly believes that she will never benefit from paying late and thus will never make a late payment and never incur a late fee. For such a consumer, the perceived benefit from the credit card is $\hat{B} = \hat{B}_1 + \hat{B}_2 = 7 + 0 = 7$, the perceived total price is $\hat{P}(4,2) = \hat{P}_1(4) + \hat{P}_2(2) = 4 + 0 = 4$, and the perceived net benefit is 3 (= 7 − 4). The efficient (4,2) contract will not be offered in equilibrium, because other contracts appear more attractive to the biased consumer, while still covering the issuer's costs. Consider the (0,4) contract, which, as explained above, induces two late payments and just covers the issuer's costs given these two late payments. (While ex ante the biased consumer believes that she will never pay late, ex post she will pay late when the benefit exceeds the late fee.) With this contract, the biased consumer perceives a total benefit of $\hat{B} = \hat{B}_1 + \hat{B}_2 = 7 + 0 = 7$, a total price of $\hat{P}(0,4) = \hat{P}_1(0) + \hat{P}_2(4) = 0 + 0 = 0$, and a net benefit of 7 (= 7 − 0). The biased consumer will thus prefer the (0,4) contract over the efficient (4,2) contract, even though the latter contract provides more value.

Similar results obtain in Case (2), where the consumer recognizes the potential benefits from paying late, but underestimates these benefits. Specifically, as described in Table 3(2), the consumer mistakenly thinks that the benefits from the second and third late payment are 1 each, while in fact they are 5 and 3,

respectively. The efficient (4,2) contract sets a late fee $p_2 = 2$, which means that the consumer will pay late whenever the benefit of paying late is larger than 2. Therefore, the consumer will pay late three times, gaining a benefit of 13 (=5+5+3) from these late payments, but she mistakenly believes that she will pay late only once for a benefit of 5. For this consumer, the perceived benefit from the credit card is $\hat{B} = \hat{B}_1 + \hat{B}_2 = 7 + 5 = 12$, the perceived total price is $\hat{P}(4,2) = \hat{P}_1(4) + \hat{P}_2(2) = 4 + 1 \cdot 2 = 6$, and the perceived net benefit is 6 (= 12 − 6). As in Case (1), the efficient (4,2) contract will not be offered in equilibrium, because other contracts appear more attractive to the biased consumer, while still covering the issuer's costs. Consider the (0,4) contract, which, as in Case (1), induces two late payments and just covers the issuer's costs given these two late payments. With this contract, the biased consumer perceives a total benefit of $\hat{B} = \hat{B}_1 + \hat{B}_2 = 7 + 5 = 12$, a total price of $\hat{P}(0,4) = \hat{P}_1(0) + \hat{P}_2(4) = 0 + 1 \cdot 4 = 4$, and a net benefit of 8 (= 12 − 4). The biased consumer will thus prefer the (0,4) contract over the efficient (4,2) contract, even though the latter contract provides more value.

2.3   Endogenous (Mis)perceptions

Section 3.2.2 has shown that, with exogenous misperceptions, competition leads to distortions in the design of products and prices – distortions that reduce efficiency and hurt consumers. But misperceptions are not exogenous. Consumer learning reduces misperception. More importantly, for present purposes, competition can provide sellers with incentives to educate consumers, again reducing misperception. These mistake-correction forces work to fix the behavioral market failure. While clearly important, the forces working to reduce misperception are not without limits. In this Section, I briefly describe sellers' incentives to correct consumer misperception, and their limits.

Sellers may invest in correcting consumer misperceptions. Consider the following, arguably common, scenario. Seller A offers a

product that is better and costs more to produce than the product offered by seller B. Consumers, however, underestimate the added value from seller A's product and thus refuse to pay the higher price that seller A charges. In this scenario, seller A has a powerful incentive to educate consumers about her product—to correct their underestimation of the product's value (or total net benefit).

But what if both seller A and seller B and many other sellers offer identical products, or offer different products that share a certain product risk. If seller A reduces this risk and invests in educating consumers about the benefits of her superior product, then seller A will attract a lot of business and make a supra-competitive profit. But this is not an equilibrium. After seller A invests in consumer education, all the other sellers will free ride on seller A's efforts. They will similarly reduce the product risk and compete away profit that seller A would have made. Anticipating such a response, seller A will realize that if she invests in consumer education she will not be able to recoup her investment. She will thus choose not to improve the safety of her product, and instead will continue to offer a higher-risk product. This collective action problem can lead to the persistence of consumer misperception. (Beales, Craswell and Salop, 1981)

In some markets, the collective action problem is avoided by a first-mover advantage enjoyed by seller A. In other words, if it takes time for other sellers to copy seller A's consumer-friendly product innovation, seller A may be able to earn sufficient profits, during this time, to make the initial investment in consumer education worthwhile. The magnitude of the first-mover advantage is context dependent. To replicate an improvement in a physical product, competitors need to reconfigure assembly lines, which takes time. Replicating a contract design innovation or a new pricing structure is much easier and much quicker.

Education by sellers is particularly unreliable when it comes to product use information. Disclosing product attribute information provides a competitive advantage to the disclosing seller, until other

sellers are able to copy. Product-attribute information is seller-specific. Sellers disclose this information to attract buyers. The disclosure reveals the superiority of their product, as compared to competitors' products. (Grossman and Hart, 1980; Grossman, 1981; Milgrom, 1981; Milgrom, 2008) Product-use information, on the other hand, is consumer-specific. If a seller discloses product-use information, there is no guarantee that the consumer will purchase the product from the disclosing seller. As long as the disclosed use-patterns are common to the entire product category, i.e., they are not seller-specific, the now-informed consumer may just as well purchase the product from a non-disclosing seller. Accordingly, sellers have little reason to voluntarily disclose use-pattern information. The standard argument for voluntary disclosure of product-attribute information does not extend to product-use information. (Bar-Gill and Board, forthcoming)

Finally, even apart from the collective action problem and the product-use information problem, sellers might prefer not to correct consumer mistakes and might even invest in creating misperception. Arguably, manipulation of consumer perceptions, and even preferences, is a main purpose of advertising. (Glaeser, 2004)[4]

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[4] On the limits of advertising as a mistake-correction mechanism, see also Gabaix and Laibson (2006).

2.4   Welfare Implications

The mistake-correction forces outlined in Section 2.3 are important but limited. Consumer misperception persists and the resulting behavioral market failure extracts a toll on both efficiency and consumer surplus. In this Section, I focus on two welfare implications: hindered competition and distorted competition.

A. Hindered Competition

Sellers design their products, contracts and pricing schemes in response to the imperfect rationality of their customers. This often results in excessively complex products, contracts and prices. Excessive complexity, in turn, increases the cost of comparison-shopping and hinders competition.

Complexity hides the true cost of the product from the imperfectly rational consumer. A rational consumer navigates complexity with ease. She assesses the probability of triggering each rate, fee, and penalty and calculates the expected cost associated with each price dimension. The rational consumer may have imperfect information, but she will form unbiased estimates given the information that she chose to collect. Accordingly, each price dimension will be afforded the appropriate weight in the overall evaluation of the product.

The imperfectly rational consumer, on the other hand, is incapable of such an accurate assessment. He is unable to calculate prices that are not directly specified. Even if he could perform this calculation, he would be unable to simultaneously consider multiple price dimensions. And even if he could recall all the price dimensions, he would be unable to calculate the impact of these prices on the total cost of the product. The imperfectly rational borrower deals with complexity by ignoring it. He simplifies his decision problem by overlooking nonsalient price dimensions. (Thaler, 1999) And he approximates, rather than calculates, the

impact of the salient dimensions that cannot be ignored. In particular, limited attention and limited memory result in the exclusion of certain price dimensions from consideration. Limited processing ability prevents borrowers from accurately aggregating the different price components into a single, total expected price that would serve as the basis for choosing the optimal product. While the rational consumer is unfazed by complexity, the imperfectly rational consumer might be misled by complexity.

Moreover, when consumers are imperfectly rational sellers design contracts in response to systematic biases and misperceptions. In particular, they reduce the total price as perceived by consumers by increasing non-salient prices and decreasing salient prices. This strategy depends on the existence of non-salient prices. In a simple contract, the one or two price dimensions will generally be salient. Only a complex contract will have both salient and non-salient price dimensions. Complexity thus serves as a tool for reducing the perceived total price.

Excessively complex contracts prevent effective comparison shopping and thus inhibit competition. Sellers gain market power, which increases their profits at the expense of consumers. Limited competition also imposes a welfare cost in the form of allocative inefficiency, as consumers are not matched with the most efficient seller.

For competition to work well, consumers must be able to compare the benefits and costs of different products and choose the one that provides the best value, given the consumer's tastes and needs. Gathering information on competing products is costly. Complexity – of the product or contract – increases this cost. A rational consumer will collect information until the expected marginal benefit of more information is outweighed by the marginal cost of collecting more information. When the cost of collecting information goes up, the rational consumer will collect less information. Less information implies weaker competition.

Imperfect rationality exacerbates this problem. The cost of collecting and processing information is larger for the imperfectly rational consumer. Moreover, the imperfectly rational consumer might not optimally weigh the benefit and cost of additional information. Confronted with a complex array of complex products, the consumer might engage in insufficient collection of information or even avoid comparison-shopping altogether. Competition is not a cure-all, but it does provide important benefits. Complexity stands in the way of effective competition.

B. Distorted Competition

Complexity weakens the forces of competition. But even if sellers vigorously competed for consumers, biases and misperceptions on the demand side of the market would distort these competitive efforts leading to a suboptimal outcome. As explained above, sellers seek to maximize the perceived net benefit of their products in the eyes of consumers. When consumer perceptions are biased, the products, contracts and prices that maximize perceived net benefit are different from the products, contracts and prices that maximize actual net benefit.

In particular, to reduce the perceived total price sellers reduce salient prices and compensate by increasing non-salient prices. What makes a price non-salient? What leads consumers to underestimate the cost associated with a certain price dimension? While there is no simple answer to these questions, there is one factor that exerts substantial influence on salience and perception – time.

The basic claim is that, in many cases, non-contingent, short-run costs are accurately perceived, while contingent, long-run costs are underestimated. An annual fee is to be paid for certain and soon. This cost will figure prominently, when the consumer chooses among competing cards. A late fee is to be paid in the future and only if the consumer makes a late payment. This cost will often be underestimated by the consumer. It is less likely to affect card choice.

If costs in the present are accurately perceived and future costs are underestimated, market forces will produce deferred-cost contracts.[5]

A comparison to the rational choice benchmark is useful: Focusing on price, sellers facing rational consumers will try to minimize the total price of their product. Competition would operate on the total-price level. Imperfectly rational consumers, on the other hand, choose products based on a few salient price dimensions. Competition will thus focus on those salient price dimensions, resulting in low salient prices and high non-salient prices. And when salience is driven by temporal distance, competition will focus on short-term prices driving them below cost, with sellers recouping losses through high long-term prices.

These distortions entail two types of efficiency costs – the first pertaining to product choice and the second to how the chosen product is used. Starting with the latter: Prices affect product-use decisions. A high late fee deters late payments. A low introductory interest rate induces borrowing during the introductory period. Optimal pricing provides accurate incentives: With an optimal late fee, consumers will pay late if and only if the benefit from paying late exceeds the cost of late payment (including the added risk implied by late payment) to the issuer. With an optimal interest rate, consumers will borrow if and only if the benefit from borrowing exceeds the cost to the issuer of providing credit. Optimal price tracks the seller's cost, so that consumers pay the price, and use the product, only when their benefit exceeds the seller's cost. This oversimplified account nonetheless offers a sense of the factors that determine optimal pricing and of the efficiency benefits that optimal pricing provides.

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[5] The importance of the temporal dimension of price and cost can often be traced back to two underlying forces: myopia and optimism.

When prices are a function of salience, rather than cost, these efficiency benefits are compromised. Low salient prices will lead to excessive use, and high non-salient prices will lead to insufficient use. Consumers will borrow excessively during the introductory period and avoid paying late even when the benefits of paying late exceed the cost to the issuer of a late payment. Distorted competition produces distorted prices, which lead to distorted incentives.

Now back to product choice: Sellers reduce salient prices and increase non-salient prices in order to minimize the total price as perceived by the imperfectly rational consumer. Since the perceived total price will be lower than the actual total price, the biased consumer may well choose a product that costs more than it is worth to the consumer. The result is allocative inefficiency.

This inefficiency exists even with optimal pricing. The non-salient price dimensions will be ignored, or underestimated, reducing the perceived total price. Distorted contract design exacerbates the problem by backloading more of the total price onto the non-salient, underestimated dimensions. The gap between actual total price and perceived total price increases and with it the number of consumers who purchase products that reduce their welfare. Bias and misperception result in artificially inflated demand. Distorted contract design adds air to the demand balloon.

2.5   Policy Implications: Rethinking Disclosure Regulation

Consumers often suffer from misperceptions and competition cannot always be relied upon to cure these misperceptions. The resulting behavioral market failure entails potentially substantial welfare costs. This opens the door to considering legal intervention. I want to focus on one form of legal intervention – disclosure regulation. In particular, I want to briefly explore how better-designed disclosure regulation can enhance competition in a welfare-maximizing way. Subsection A highlights the importance of disclosing product use information. Subsection B discusses optimal design of disclosure mandates, given the imperfect rationality of consumers.

Before proceeding, two points should be emphasized: First, I focus on disclosure regulation not because disclosure always works, and not because disclosure is always the optimal form of regulatory intervention. Rather, I focus on disclosure regulation because it is the least intrusive form of regulation and, thus, the form of regulation that is most likely to be adopted. I focus on disclosure regulation also because disclosure mandates, when optimally designed, directly target the mistakes and misperceptions at the core of the behavioral market failure.[6] Second, I am mindful of the problem of information overload. I argue for better disclosure, not for more disclosure.

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[6] Disclosure mandates are a primary example of soft paternalism (or asymmetric paternalism or libertarian paternalism) – helping less sophisticated consumers, while imposing minimal costs on more sophisticated consumers. See C. Camerer et al., 'Regulation for Conservatives: Behavioral Economics and the Case for "Asymmetric Paternalism"', 151 U. Pa. L. Rev., at 1211 (2003); C. R. Sunstein and R. H. Thaler, 'Libertarian Paternalism is not an Oxymoron', 70 U. Chi. L. Rev., at 1159 (2003); Richard H. Thaler and Cass R. Sunstein (2008), Nudge:

A. Disclosing Product Use Information

Section I. A distinguished between product attributes and product use and, correspondingly, between product attribute mistakes and product use mistakes. Both types of mistakes interfere with the efficient operation of markets and hurt consumers. Information can cure mistake. Disclosing product attribute information can reduce product attribute mistakes, and disclosing product use information can reduce product use mistakes. To a large degree, however, existing and proposed disclosure mandates focus solely on product attribute information. (Bar-Gill and Ferrari (2010)

Disclosure mandates should target product use information as well. Consumers need product use information to make optimal decisions. And consumers do not have good product use information. They make systemic mistakes about their future use patterns. But the fact that consumers lack product use information is insufficient, in and of itself, to justify regulation that mandates disclosure of product use information. Two preliminary objections must first be considered: First, disclosure only makes sense if sellers have better information than consumers. Otherwise, what would they disclose? While sellers presumptively have better information about the attributes of the products that they are offering, the opposite presumption is often applied to use information: consumers are believed to have better information about how *they* are going to use the product. In important consumer markets, this presumption is

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Improving Decisions about Health, Wealth and Happiness, Yale University Press, New Haven and London. Other policy tools, specifically education/literacy/numeracy programs, are synergetic with disclosure regulation, as they increase consumers' ability to digest disclosed information, and thus allow for effective disclosure of more, and more comprehensive, information.

false. The credit card market is such a market. Duncan McDonald, former general counsel of Citigroup's Europe and North America card businesses, noted:

> No other industry in the world knows consumers and their transaction behavior better than the bank card industry. It has turned the analysis of consumers into a science rivaling the studies of DNA. The mathematics of virtually everything consumers do is stored, updated, categorized, churned, scored, tested, valued, and compared from every possible angle in hundreds of the most powerful computers and by among the most creative minds anywhere. In the past 10 years alone, the transactions of 200 million Americans have been reviewed in trillions of different ways to minimize bank card risks. (MacDonald, 2007; See also Duhigg, 2009)

The cellular service market provides another example. A pricing manager at a top US cellular service provider commented that "people absolutely think they know how much they will use [their cell phones] and it's pretty surprising how wrong they are." (Grubb, 2009) Presumably, the pricing manager was comparing people's perceived use patterns to a benchmark of actual use patterns, which the provider, and its employees, knew.

Even when sellers have superior use information, disclosure mandates might not be justified, because of the second preliminary objection: why mandate disclosure if sellers can be expected to disclose voluntarily? The answer to this objection is that sellers will not always volunteer the information. This takes us back to the question about mistake-correction forces and their limits. As argued above, voluntary disclosure, or education by sellers, cannot always be counted upon. Moreover, product use information is less likely to be voluntarily disclosed. The prevalence of rules requiring product attribute disclosure and the relative paucity of mandatory product use disclosure is, in an important sense, exactly the opposite of what

economic theory would recommend. (Bar-Gill and Board, forthcoming)

Product use disclosures come in two main forms: statistical, average use disclosures and individual use disclosures. Individual use disclosures, based on each consumer's past use patterns are clearly more effective. Such disclosures, however, will generally be feasible only in service markets, such as the credit card market and the cell phone market, where service providers have long-term relationships with their customers and collect use information over the course of these relationships. In other markets, product use disclosures will necessarily be limited to statistical information, based on the use patterns of the average consumer, or the average consumer within a certain demographic. Heterogeneity among consumers limits the value of such average use disclosures. Consumer optimism – "we are all above average" – also limits the value of average use disclosures.

Individual use disclosures, while more effective, are also subject to certain limits. First, product use is a function of product attributes, among other things. Accordingly, when a consumer switches from one product to another product, her use patterns may change. For example, a cellphone user who switches from a 200 minutes-per-month plan, with substantial overage fees for minutes beyond the plan limit, to a 500 minutes-per-month plan may start talking more. Product use disclosures based on the 200 minute plan may thus be misleading. Second, individual use disclosure will inevitably be based on past use. Past use is only an imperfect proxy for future use. Moreover, to the extent that past use is considered irresponsible – consider, for example, a pattern of late payments on a credit card that triggered multiple late fees – optimistic consumers may think that they will do better in the future.

Product use disclosures are not perfect. Still, even accounting for its limits, consumers will often be better-off with product use information than without it. Regulators designing disclosure regimes should consider the potential role of product use disclosures.

B. Designing Optimal Disclosure Mandates

Disclosure mandates are prevalent, but they are often ill-conceived. Simply providing more information will not always help consumers. Heaps of paper blindly signed at the closing of a mortgage and the impenetrable fine print of a credit card contract are extreme examples of disclosure regulation gone wrong. For sophisticated, rational consumers the cost of reading and deciphering the meaning of these complex disclosures often outweighs the benefit. For imperfectly rational consumers, information overload is an even bigger problem.

To be effective disclosure mandates must adopt one of two general approaches: First, disclosures can target consumers directly, as most current disclosure mandates do. To be effective, however, these disclosures must be kept simple, unlike most current disclosure mandates. The second approach reconceptualizes disclosure as targeting sophisticated intermediaries or sellers, rather than consumers directly. These disclosures can be more comprehensive and more complex.[7]

1. Simple Disclosures for Consumers

Designing simple disclosures that directly target imperfectly rational consumers is a non-trivial task. There is an inherent tension between providing more information and providing accessible information. Sellers have a lot of relevant information. A disclosure that is simple enough for consumers to understand will inevitably

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[7] The distinction between simple disclosures for consumers and comprehensive disclosures for intermediaries and sellers roughly corresponds to the distinction made by OIRA Administrator, Cass R. Sunstein between summary disclosure and full disclosure. (Sunstein, 2010)

exclude some relevant information. The goal is to maximize what consumers take away from the disclosure. To accomplish this goal, regulators must identify the most important information and to present it in the simplest possible form.

In many cases, an effective way to provide maximal information in a minimally complex way is by disclosing total-cost-of-ownership (TCO) information. The TCO disclosure is a simple, single-figure disclosure that aims to provide consumers with an estimate of how much they will end-up paying for the product over the product's life-span. In some cases, the disclosed total cost can be measured over a specified period, typically a year. In these cases, the TCO disclosure would become an annual cost disclosure.

The TCO and annual cost disclosures combine product attribute information with product use information. For example, the annual cost of a cellphone plan would combine plan rates with information on use patterns to estimate the annual cost of cellular service. If this is a new customer, the carrier may have to use average use information to calculate the annual cost estimate (unless the consumer brings individual use information from previous experience with another carrier). For existing customers, the carrier should use individual use information.

These simple, aggregate disclosures are a direct response to the behavioral market failure identified in this chapter. Sellers facing imperfectly rational consumers will design complex, deferred-cost contracts, in order to maximize the wedge between the actual and perceived cost of their products. The TCO disclosure undermines sellers' incentives to design such welfare-reducing contracts. Complexity is used to hide the true cost of the contract by allowing sellers to load costs onto less salient price dimensions. If sellers are required to provide a TCO disclosure that aggregates both salient and non-salient prices, complexity ceases to be a problem for consumers and loses its appeal to sellers. Similarly, sellers design deferred-cost contracts, so that myopic and optimistic consumers will underestimate the cost of the product. A TCO disclosure that

aggregates both short-term and long-term costs into a single figure that guides consumer choice would substantially reduce sellers' incentives to defer costs.

A TCO disclosure can help consumers figure out if the benefit from the product exceeds its true cost. But TCO disclosures have another, perhaps more important role – they facilitate competition, by providing a common metric for comparing competing products. The idea of TCO disclosures as facilitating competition highlights their relationship with other product rating systems. Product ratings on certain consumer websites provide an example. Like the TCO disclosures, these ratings attempt to aggregate much information in a simple measure. Unlike the TCO disclosure, product ratings focus on the product's benefits, rather than on its costs (for many evaluated products, the cost, to the consumer, is simply the one-dimensional price tag).

In certain markets TCO disclosures are not optimal. Since a single-figure TCO disclosure inevitably leaves out relevant information – information that becomes more critical as consumer heterogeneity increases (and when this heterogeneity cannot be adequately dealt with by incorporating individual use information) – a multidimensional disclosure may be superior. When designing such disclosures, regulators should be mindful of the tradeoff between more information and accessible information. The theory of optimal disclosure design is still not well-developed. Most disclosure mandates are issued without any attempt to scientifically devise optimal disclosure forms. In recent years, regulators, including the Federal Trade Commission, the Federal Reserve Board and the Consumer Financial Protection Bureau, have begun to employ consumer-testing methods to identify more effective disclosure forms. These efforts should be extended.

2. Comprehensive Disclosures for Intermediaries and Sellers

The standard disclosure paradigm envisions disclosures that directly target consumers, namely disclosures that are read and used by consumers. But there is another option. Disclosures can help consumers, even when they are not directly targeted at consumers. Consumers often rely on agents – intermediaries and even sellers – to help them choose among competing products. These agents, however, rarely have enough information to effectively advise consumers. Disclosure regulation can solve this problem.

Consider a consumer who is at the end of her 2-year cellular service contract. This consumer needs to decide whether she will stay with her old carrier – with her current plan or with a different plan – or switch to another carrier. The consumer must choose among many complex products. She is searching for the optimal cellphone plan, given her particular use patterns. This consumer could employ the services of an intermediary, like BillShrink.com. The intermediary will have information on available plans – product attribute information. It will not have information on the consumer's use patterns. Of course, the consumer could provide this information but, as suggested above, many consumers have a poor sense of their use patterns. This is where disclosure kicks in. The missing information exists – in the databases of the consumer's old carrier. Disclosure regulation could require the old carrier to provide this information, in electronic form to the consumer. The consumer will not read the raw data. She will forward it to the intermediary that will now be in a position to help the consumer choose the product that best fits her use patterns.

A related model skips the intermediary and relies on competing sellers as agents of consumers. Currently, the old carrier is at a competitive advantage, since it knows the consumer's use patterns, while other carriers do not. If the old carrier is required to disclose use information in electronic form, the consumer could then forward this information to competing carriers, and ask which of their plans

best fits her use patterns. This type of disclosure would level the playing field, between the old carrier and its competitors, to the benefit of consumers.

This alternative disclosure paradigm avoids the tradeoff between more information and more accessible information. Since the disclosed information is to be used by sophisticated parties – intermediaries or sellers – rather than directly by consumers, the disclosure can be comprehensive and complex. Disclosure that benefits consumers, without being targeted directly at consumers, has been prominently proposed by Richard Thaler and Cass Sunstein (2008). Sunstein has begun implementing this proposal in his role as Administrator of the Office of Information and Regulatory Affairs (OIRA). (Sunstein, 2010) The idea is also beginning to percolate in the relevant regulatory agencies. For example, the Federal Communications Commission, in a recent Notice of Inquiry, recognized the potential importance of both electronic disclosure and intermediaries. (FCC, 2009) Finally, the Mydata initiative in the United Kingdom embraces this new disclosure paradigm. (Department of Business Innovation and Skills and Cabinet Office Behavioral Insights Team, 2011)

2.6   Conclusions

ompetition is commonly believed to promote the interests of consumers. This chapter suggests that this benefit of competition does not necessarily extend to a world with imperfectly rational consumers who systematically misperceive the benefits and costs of products. Regulatory intervention may be needed to help market forces fulfill their consumer-protection potential. This chapter highlighted the promise in disclosure mandates that are deliberately designed for imperfectly rational consumers, or for sophisticated intermediaries that advise imperfectly rational consumers.

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3 Deception and Consumer Protection in Competitive Markets[*]

By Paul Heidhues, Botond Köszegi[⋆] and Takeshi Murooka[✧]

3.1 Introduction

This paper discusses and extends some of our recent work on competitive markets in which consumers systematically misunderstand either their own behavior, or contract or product features. In Section 2, we briefly introduce evidence that consumers indeed systematically mispredict their own future behavior as well as the abundance of evidence that consumers misunderstand certain contract or product features. Recent research in behavioral economics emphasizes that these consumer mispredictions allow firms to charge an unexpectedly high price at an ex-post stage after consumers already have entered a relationship with the firm (DellaVigna and Malmendier 2006, DellaVigna and Malmendier 2004, Gabaix and Laibson 2006, Heidhues and Köszegi 2010). At the same time, however, researchers have pointed out that competition for such naive consumers will return much of the ex-post profits to consumers, thereby limiting or sometimes even eliminating the harm

[⋆] Professor, University of California, Berkeley
[✧] Graduate Student, University of California, Berkeley

to consumers and inefficiency (DellaVigna and Malmendier 2004, Gabaix and Laibson 2006, Laibson and Yariv 2007). Intuitively, if a consumer's misperception allows firms to offer contracts that exploit these, such a consumer becomes a highly valuable customer. In competitive environments, therefore, firms should compete fiercely to attract such consumers, and when doing so offer very attractive deals to these consumers.[1] Based partly on related intuitions, competition policy practitioners often argue that competition policy is the best form of consumer protection. In this paper we point out severe limitations to this "safety-in-markets" argument, and emphasize that there is a potential role for active consumer-protection policies.

Based on Heidhues and Köszegi (2010), Section 3.3 highlights a first important limitation of the safety-in-markets argument in an environment in which competition drives firms' profits to zero. In our competitive environment, profit-maximizing firms offer contracts that fully exploit consumers' time-inconsistency whenever—in line with the evidence cited in Section 3.2.1—they underestimate their time-inconsistency. Indeed, whenever some consumers underestimate their time-inconsistency by an arbitrarily small amount, firms design contracts such that these consumers considerably underestimate their cost of credit, which results in excessive consumer indebtedness. This model matches seemingly surprising contract features in the US-credit market, and restricting the contractual form in ways that makes such exploitation harder hence increases welfare. Building on the model's predictions, we briefly discuss why we believe that the emphasis on "libertarian" or

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[1] A close analogue is the central prediction in the switching-cost literature that although firms can exploit locked-in consumers' switching costs to generate ex-post profits, these profits tend to be partially or fully returned to consumers through the ex-ante competition for them (Farrell and Klemperer 2007).

"asymmetric" paternalism can be misguided, and suggest that it may be more appropriate to focus on "robust paternalistic" approaches. Following this approach, we derive some implications of our model for possible consumer-protection regulations such as the US Credit CARD Act 2009 and the 2008 amendments by the Federal Reserve Board to the Truth in Lending Act.

We then turn to another limitation of the safety-in-markets argument. Essentially, we argue that in many important economic settings—such as retail finance—in which the misunderstanding of contract terms is widespread, the argument that ex-ante competition should lead firms to hand back ex-post profits is overly optimistic. To do so, in Section 3.4 we introduce a novel market model for a homogeneous good in which firms compete by offering contracts that have an observable and an unobservable price component. Naive consumers ignore the unobservable price component when maldng their purchase decision. Besides these naive customers, however, there are arbitrageurs who have no interest in the product but who are interested in "easy money". These arbitrageurs have a given cost of avoiding the hidden fees, which is relatively easy in many real-world settings for customers who are not interested in the service whatsoever. Absent arbitrageurs, there is complete safety in markets in our model, as the unexpected ex-post profits firms earn from consumers are handed back ex ante—although each individual consumer will find that his contract offer was deceiving in that his ex-post payments are far higher than anticipated.[2] If there are enough such arbitrageurs, on the other hand, firms will not be

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[2] When consumers' valuations for the product are heterogenous, however, there will typically be some marginal consumer types who buy the product only because they believe its less expensive than it is. From a regulatory perspective, nevertheless, it is important to note that even considerable consumer misunderstanding of contract terms in itself does not imply a high welfare cost thereof when the demand is inelastic.

willing to lower the up-front price to a level at which it becomes profitable for arbitrageurs to accept the contract and avoid the hidden fees. In essence this creates a price floor, and in the presence of this price floor firms make positive profits even in seemingly competitive environments.

Based on the idea that in most retail-finance markets the threat of arbitrageurs severely limits any up-front payments to consumers, we suggest that it is important to investigate the implications of such price floors for competition and regulation. To take an important regulatory example, lowering the additional (hidden) prices that firms can charge leads to a direct benefit to consumer in the presence of binding up-front price floors. This provides a strong counterargument against the common criticism that the cost of consumer protection measures are simply passed on to consumers.[3] Nevertheless, we also point out that regulating additional prices— such as regulating the ATM withdrawal fees—can have unintended consequences—such as lowering the density of ATM machines.

Section 3.5 mentions further limitations to the safety-in-markets argument derived in other behavioral-economics papers, highlighting that there is a potential for consumer-protection policies. It also, however, mentions some pitfalls of different consumer-protection policies—such as regulating add-on prices, providing information, or increasing comparability between products. It concludes that all forms of regulations have cost and

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[3] Recall that Section 3.3 already establishes that—even absent an up-front price floor—this argument fails in perfectly competitive market with time-inconsistent consumers who are not perfectly sophisticated. Moreover in any environment in which consumers become aware of (some) high additional prices during the duration of the contract, and adjust their behavior to avoid these, this has adverse welfare consequences even if firms do not make positive profits from exploiting consumers.

benefits and their desirability has to be accessed on a case-by-case basis.

3.2   Evidence on Consumer Misperceptions

3.2.1 Misprediction of Own Behavior Given Contract Terms

Classic economists believed that people know their own preferences well—at least once they had a chance to learn and experience what they like. Popular wisdom and psychologists have been critical of this assertion. Think of the famous proverb "Don't go shopping on an empty stomach," warning you of buying excessive amounts of food when hungry presumably because you overestimate your demand for food in a hungry state. Experimental evidence in various domains—including preferences for food or sexual activity—shows that people on average indeed underestimate how much their preference changes in situations in which even an outside observe can predict this preference change.[4] Behavioral

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[4] For example, Read and van Leeuwen (1998) provide experimental evidence indicating that people systematically misestimate their future food preferences. They document that hungry subjects tend to prefer unhealthier snacks to healthier items, while satiated subjects have a tendency to prefer the healthier items. And when predicting what they want tomorrow, hungry people underappreciate that they will predictably prefer the healthier snack when satiated. Similarly, Ariely and Loewenstein (2005) document that when not being sexually aroused, young males underestimate their willingness to engage in various sexual practices when being aroused. In both domains subjects presumably had ample time to learn their preferences, suggesting that misestimation of preferences is widespread.

economists have started to model these phenomena,[5] and ask what implications it has in different economic settings.

One important setting in which mispredictions of preferences has been extensively studied is that of intertemporal choice. Many people have a preference for immediate gratification—e.g. "today wanting to start a diet tomorrow, but when tomorrow comes preferring to start the diet a day later"—and experimental as well as field evidence suggest that they understimate their future taste for immediate gratification.[6] In a well-known and well-documented example, DellaVigna and Malmendier (2006) find that most exercise "enthusiasts" who buy an expensive gym membership hardly use the membership. Furthermore, they forcefully argue that the most plausible explanation for such behavior lies in naive predictions of future tastes from time-inconsistent consumers.[7]

Since we focus on consumer-protection regulation in credit markets below, it is worth emphasizing that numerous papers suggest that partially-naive time-inconsistent behavior of borrowers is important for understanding this market. Meier and Sprenger (2010) report a positive correlation between low and middle-income

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[5] See Loewenstein, O'Donoghue and Rabin (2003) for a formal model and DellaVigna (2009) for a discussion of related field evidence.

[6] For evidence of time-inconcistency and partial naivete about this time-inconsistency in different domains, see Frederick, Loewenstein and O'Donoghue (2002) and DellaVigna (2009).

[7] In a related field study with a different subject pool, Nardotto (2011) shows that subjects choosing an overly expensive gym-membership contract instead of paying per visit are overoptimistic both about their own future and past attendance. The latter fact is in line with his finding that experience has only a small effect on improving these subjects' contract choices.

individuals who exhibit time-inconsistency in experimental choices over monetary payments and their outstanding credit-card debt. To explain a typical US household's simultaneous holdings of substantial illiquid wealth and credit-card debt, Laibson, Repetto, and Tobacman (2007) argue that the household's short-term discount rate must be higher than the long-term discount rate. Because in their calibration having a credit card lowers utility for many households, the fact that these households own these cards suggests some (partial) naivete about future credit-card use. In line with this argument, consumers overrespond to the introduc- tory "teaser" rates in credit-card solicitations relative to the length of the introductory period (Shui and Ausubel 2004) and the post-introductory interest rate (Ausubel 1999), indicating that they eventually borrow more than they originally intended or expected to. While the majority of payday borrowers default on a loan, Skiba and Tobacman (2008) document that they do so only after paying significant costs to service their debt. Their calibrations indicate that such costly delay in default is also only consistent with partially-naive time-inconsistency. We now turn to misunderstanding of contracts or product features.

3.2.2 Misunderstanding of Contract Terms or Product Characteristics

That consumers' understanding of certain product characteristics—such as add-on prices and financial service fees—is severely limited and often systematically biased has been documented for a variety of industries. In an early paper, Hall (1997) reports that 97% of buyers do not know the price of the cartridge when buying, and in a survey by UK's Office of Fair Trading, retailers believed 75% of consumers did not have an idea about

printing costs.[8] Boardman (2010) lists many common misunderstandings about insurance coverage; according to a survey by the National Association of Insurance Commissioners she cites, for example, 68% of consumers incorrectly believe homeowner insurance covers cars, boats, and motorcycles lost or stolen on the property. In retail banking, most consumers (including long-time consumers) do not know specific fees associated with their bank accounts, even when they claim that they do (Cruickshank 2000, pages 126-7), and probably as a result they incur many avoidable fees (Stango and Zinman 2009). In the credit-card industry, evidence by Agarwal, Driscoll, Gabaix and Laibson (2008) indicates that many consumers (especially young consumers) seem to not know or forget about various fees issuers impose. In the mortgage industry, Cruickshank (2000, page 127-8) reports that most consumers do not understand key mortgage features, and Woodward and Hall (2010) find that borrowers underestimate broker compensation. And in the cellphone industry, regulators are worried about the "bill shock" many consumers face when they run up charges they did not anticipate (Federal Communication Commission 2010).

3.3 Naivete about Self-Control in a Competitive Credit Market

In this section, we study the implications of partially-naive time-inconsistent borrowers for the functioning of credit markets. To do so, we abstract completely from consumer misunderstanding of contracts terms.

Consider the basic credit-market model of Heidhues and Köszegi (2010). There are three periods. Consumer borrow a given amount c in the initial period 0 in which they select a credit contract.

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[8] "Consumer IT Goods and Services", The Office of Fair Trading, 2002.

Thereafter they repay amounts q and r in periods 1 and 2, respectively. The self-0 incarnation, which selects the credit contract, has preferences $c - k(q) - k(r)$, where the differentiable repayment cost function k is increasing and convex, and has a slope at zero that is low enough so that consumers demand credit in the competitive industry equilibrium. Self 1 maximizes $k(q) - \beta k(r)$, where following Laibson (1997) $\beta < 1$ captures the borrower's degree of time-inconsistency. To reflect the fact that it often requires immediate time and effort to sign a credit contract,[9] while the consumption benefits of extra credit are delayed, the model assumes that self 0 does not down weight future repayment costs in the same way that self 1 does.

For the sake of argument, assume the technically simplest form of partial naivete: self 0 believes with probability one that she down weights future consumption using $\hat{\beta} \geq \beta$. When $\hat{\beta} = \beta$, the agent is fully sophisticated and when $\hat{\beta} = 1$ the agent is fully naive, i.e. believes that her future self will have the same preferences as self 0 does.[10] Furthermore, suppose that firms observe both β as well as $\hat{\beta}$.

These consumers interact with profit-maximizing risk-neutral firms that face an interest rate of zero. These firms offer exclusive credit contracts in period 0, and there is no possibility of default in the model. In addition, here we restrict attention to the simplest case in which firms observe both β and $\hat{\beta}$. In an unrestricted market, a

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[9] This is obvious for a mortgage contract but even for credit cards a significant amount of the spending is on future consumption—such as holidays or purchases of durables.

[10] The paper allows for a general form of naivete in which self 0 has a distribution over β and shows that the result holds qualitatively for any such distribution in which the agents is overoptimistic in the sense of putting non-trivial probability weight on having more self control than she actually does.

general contract consists of an amount of consumption c and possibly different repayment options $\{(q_s, r_s)\}_{s \in S}$ from which the borrower can select in period 1. A repayment option (q_s, r_s) specifies the amount the agent repays in period 1 and the amount she repays in period 2. Observe that a Arm can thus offer a contract with a single repayment option, which enables a time-inconsistent consumer to perfectly commit her future repayment behavior, and thereby to fully overcome any self-control problem she may have.

It is instructive to first solve a benchmark in which all borrowers are time-inconsistent but fully sophisticated $\hat{\beta} > \beta$. In this case the credit contract in a competitive equilibrium has a single relevant repayment option the consumer both thinks she will choose and that she will choose in the end; this repayment option satisfies $k'(q) - k'(r) - 1$ and the consumption amount $c = q + r$. With fully sophisticated consumers, thus, the market equilibrium maximizes self O's utility subject to the constraint that the amount of money loaned is equal to the repayment. Intuitively, a fully sophisticated consumer cannot be fooled, and hence if her self-0 utility was not maximized, a firm could offer a contract that does so, and charge a small amount for it. This, however, contradicts the fact that firms must earn zero profits in a competitive equilibrium. Hence, the ability to commit allows a fully sophisticated consumer to overcome her self-control problem.

Now suppose instead that the consumer is not fully sophisticated and is overoptimistic about her future self-control regarding repayment $\hat{\beta} = \beta$. In this case the competitive-market equilibrium contract has a front-loaded decoy repayment option $(\hat{q}, \hat{r})$ the consumer think she will choose, and a repayment option (q, r) she will actually choose. The repayment option she will actually choose satisfies $k'(q) = \beta k'(r)$. In other words, it caters entirely to self l's taste for immediate gratification, and thus the ability to write long-term contracts does not mitigate the the consumer's time-inconsistency at all. Intuitively, in the optimal contact the consumer's self 1 is indifferent in period one between choosing the front-loaded

decoy repayment option $(\hat{q}, \hat{r})$ and the actual repayment option *(q, r)*. But then any consumer with a smaller taste for immediate gratification— no matter how much smaller—strictly prefers to repay according to the front-loaded repayment option $(\hat{q}, \hat{r})$, and since a non-sophisticated consumer $(\hat{\beta} > \beta)$ believes to be at least somewhat less time-inconsistent when signing the contract, she believes she will repay early. Furthermore, once the firm induces the consumer to switch away from the decoy repayment option, how much the firm can charge for the consumer's willingness to delay repayment depends entirely on self l's preference, and hence the firm designs the actual repayment option with self 1 in mind. Finally, in our extreme example in which all consumers are non-sophisticated, the decoy repayment option is never paid, and hence the firm designs this repayment option with the aim of attracting consumers in a way that does not interfere with its ability to earn unanticipated ex-post profits from these consumers. For the ability to attract the consumer, only the perceived overall repayment cost from the decoy repayment option matter, and for any given such cost the firm can make the most profits ex post if the repayment option forces the consumer to repay the entire loan in the first period. In this case, the consumer misestimates her willingness to pay for delaying repayment the most, and hence the actual repayments the firm can collect exceed the estimated ones by the most.

The competitive equilibrium not only does not mitigate the consumer's time-inconsistency, under a mild condition on the consumer's preferences it induces her in addition to borrow too much: since the consumer believes she will repay quickly, she underestimates the cost of credit, and borrows too much even given that repayment is performed according to self l's taste for immediate gratification.

For a moment, consider a thought experiment with the sole purpose of shedding some light on why we think the focus on libertarian[11] or asymmetric[12] paternalism can be misguided. Suppose there is a policy maker in a world in which long-term contracts are infeasible—that is any loan must be a one-period loan in a setting that is otherwise identical to the one above. This policy maker now considers a policy intervention that allows for long-term contracts. He considers two types of consumers, classical (time-consistent) ones and non-classical time-inconsistent ones who are fully sophisticated.[13] Now allowing long-term contracts here would not affect the welfare of time-consistent consumers, and it would make fully sophisticated consumers better of, thereby satisfying this property of libertarian paternalism. But it does harm to other, non-classical consumers: those with a $\hat{\beta}$ close to but greater than β. For $\hat{\beta}$ sufficiently close to β, these consumers believe they will repay in a way that closely resembles their actual repayment behavior in a short-term market.

In a long-term market, however, they significantly underestimate the cost of credit as they believe they will repay using the decoy option, and this lowers their welfare relative to a short-term market in which they are more careful when borrowing in the initial period. This example is meant to highlight that often it is

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[11] See Sunstein and Thaler (2003).

[12] See Camerer, Issacharoff, Loewenstein, O'Donoghue and Rabin (2003).

[13] Asymmetric and libertarian paternalism ask policy makers—among other things—to focus on interventions that help non-rational consumers without hurting rational consumers. While we view time-consistency and rationality to be two fully separate issues, the example is meant to capture the spirit of not hurting classic "fully rational" consumers and helping "behavioral" or non-classic consumers. Libertarian paternalism in addition requires the policy maker to not reduce the consumers' choice sets.

important to think about the unintended consequence of interventions not only on rational consumers but also on other "irrational" consumers that are likely to be present in the market place. Paternalistic interventions should be—as much as possible—robust to the existence of plausible other types of consumers.

Prior to recent regulatory intervention limiting fines for delaying repayment in various ways, the above predictions of front-loaded repayment terms, and hefty fines for delaying repayment matched features of the US subprime mortgage as well as the US credit-card market well. In addition, we are unaware of an alternative "rational" explanation for these, and argue in Heidhues and Köszegi (2010) that natural models of consumer-credit markets with fully rational consumers do not predict these contract features. We also are unaware of and see no obvious "behavioral" explanation in which these hefty fines for changing one's mind a little serve a useful economic purpose. The combination of these facts together with the potentially high welfare cost we predict, makes it natural to ask whether consumer-protection policies can lower these welfare costs.

We thus consider possible regulatory interventions in the above market with the aim of increasing consumers' welfare. In line with much of the literature, we focus on self 0's preferences for welfare comparisons. One regulation in the above model would be to simply require firms to only offer the welfare-maximizing contract. For obvious reasons this, however, is not a feasible regulation in settings in which this contract is unknown to the regulator. Similarly, in our simple setup one could require full commitment to the repayment terms; again, however, in slightly more complicated environments in which there are shocks to the consumers' repayment costs such a regulation is suboptimal. We also ignore policies that try to make contracts short term, both because they hurt sophisticated time-inconsistent consumers and because we view the long-term nature as resulting from actual consumer switching behavior, which as documented by Ausubel (1999) often ignores beneficial refinancing

options. Instead, our aim is to consider regulator interventions that seem feasible in practice.

One such regulation is to prohibit large penalties for deferring small amounts of repayment to the second period—akin to recent regulation in the US subprime market, and recent regulation in the US credit-card market that prohibits the use of interest charges for partial balances that have been payed off. Formally, we model this regulation as requiring firms to set an interest rate that consumers pay for delaying repayment from period 1 to period 2. This ensures that consumers who misestimate their time-inconsistency by only a little bit, misestimate their resulting repayment behavior and costs only slightly, and hence are almost as well of as a sophisticated consumer with the same contract. Since sophisticated consumers are offered a contract with a high interest rate for delaying repayment from period 1 to period 2, whose cost for delaying exactly offsets self l's taste for immediate gratification, they receive the first-best outcome also in such a restricted market. And because nearly sophisticated consumers get a contract that is nearly optimal, they are strictly better of with such a regulation of the contractual form.

When allowing for fully-sophisticated and non-sophisticated consumers with the same beliefs, however, the above regulation does not satisfy the property of both libertarian and asymmetric paternalism that it helps non-sophisticated consumers without hurting fully sophisticated ones. In such an environment firms earn profits from non-sophisticated consumers ex post, and since they cannot differentiate these non-sophisticated consumers form sophisticated ones ex ante, competition forces firms to distribute these ex-post profits among all consumers ex ante. To observe why we think this requirement of libertarian paternalism is too stringent in our setting, consider as a thought experiment a policy that could costlessly transform all non-sophisticated consumers to sophisticated

ones. This policy, although ensuring that the welfare-maximizing contracts are selected by all consumers, would also fail the above requirement of asymmetric paternalism.[14] Nevertheless, we think of such a policy as highly desirable. We thus replace this requirement of libertarian paternalism by what we refer to as *robust paternalism:* robust paternalism increases welfare independent of the exact population share of sophisticated as well as non-sophisticated consumers. Because the above policy intervention can lead to large welfare gains to non-sophisticated consumers who are almost sophisticated, it typically will increase total welfare and we therefore think of it as presumably desirable.[15]

3.4 Price-Competition with Naive Consumers and Arbitrageurs

In this section, we introduce our model of a market with shrouded attributes and the possibility of arbitrage. We begin by formulating an extremely stylized model of competition with shrouding that generates logic of ex-ante competition for ex-post

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[14] Note that in a classic competition-policy setting, a market intervention that increases total welfare or consumer surplus through eliminating a distortion is typically considered desirable at least as long as there are no obviously undesirable and severe distributional consequences. We think of eliminating this distortion in credit-markets as equally desirable.

[15] The policy intervention will hurt overpessimistic consumers for whom $(\hat{\beta} < \beta)$ but—at least for near sophisticated consumers—by less than it helps overoptimistic consumers. Since research suggests that overoptimism is the more widespread phenomena, and since welfare improvement for overoptimistic consumers is large, we nevertheless believe this is likely to be a beneficial intervention even though with regard to overpessimistic consumers it is not a robust paternalistic intervention.

profits similar to DellaVigna and Malmendier (2004), Gabaix and Laibson (2006), and Laibson and Yariv (2007). Our model builds on an idea mentioned in Farrell and Klemperer (2007) and Grubb (2011) and modeled in a duopoly setting by Ellison (2005), that the ex-ante price competition for consumers could be weakened because cutting prices would attract disproportionately many less profitable consumers. We go beyond previous models and intuitions by showing that the adverse-selection problem facing firms can be so severe that Bertrand-type competition yields positive profits.

Naive consumers are looking to buy a product. The consumers' value of the product is $v > 0$. There are $N \geq 2$ homogeneous firms competing in the market, and the product costs $c \geq 0$ for the firms to provide. The firms are engaged in Bertrand-type price competition, so each firm n simultaneously sets an up-front fee f_n and an additional price a_n. While naive consumers see all up-front prices f_n, they ignore the additional prices a_n when deciding from which firm to purchase. Since consumers are naive and do not take the additional price component a_n into account when selecting the firm from which they want to purchase, firms will charge the maximal additional price they can. For brevity, we thus assume that the additional price is exogenously given and equal to $\bar{a} > 0$, which can be interpreted as either a regulatory price cap on hidden charges or naive consumers' willingness to pay for continuing the service once they signed an initial contract. We also suppose that firms cannot educate consumers about the existence of the additional price.[16] If

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[16] We have characterized equilibria in the combined model with both arbitrageurs and the possibility of educating consumers via "unshrouding the additional price" along the lines discussed in Heidhues, Kőszegi and Murooka (in preparation), and the results are available upon request. The combined model yields no qualitatively new insights beyond those derived in both models separately.

consumers are indifferent between firms, the firms get equal market share.

The key assumption in addition to the existence of naive consumers is that there are also "arbitrageurs" in the market. Arbitrageurs do not derive any value from the product itself, but they are willing to take it to get free money or perks, and they can avoid paying the additional price. Let e be the cost of arbitrage, which could represent the cost of getting the product or the cost of avoiding the additional price. We think of e as often being very low, or even zero (if arbitrageurs really do not want the service at all). In fact, e could be negative either because the base product can be sold on a secondary market (e.g. a mobile phone), or because it has an alternative use which arbitrageurs value and which costs e on the market (e.g. a video-game console that can be used to watch DVD's, or a product that can be disassembled to yield valuable parts). From a formal point of view, the arbitrageurs in our model are identical to sophisticated consumers who, as in the model of Gabaix and Laibson (2006), correctly anticipate additional prices and have an effort cost e of avoiding them. Precisely, when firms set equilibrium up-front prices less than their marginal cost in the model of Gabaix and Laibson (2006), sophisticated consumers in their model work as arbitrageurs and the firms may earn positive profits in homogeneous-product price competition.[17] Nevertheless, we refer to these unprofitable consumers as arbitrageurs because the threat of individuals trying to make easy money on firms seems more powerful than the threat of consumers who are able to figure out the lowest-cost way of using the product.

The proportion of naive consumers in the population is a. In many economically relevant situations, a is likely to be low for at

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[17] This observation has been made independently by Ko (2011) who analyses different regulatory interventions in a Gabaix-Laibson-type model.

least two possible reasons. First, in many cases the number of potential consumers for a particular service is much lower than the number of people interested in obtaining easy money. Second, this is especially so if arbitrageurs can buy multiple items whereas consumers just want one item. For an extreme example, this is the case when a good that is easy to dispose of in bulk is sold at a negative price. To ensure that firms can profitably sell the product and to ease the exposition, we assume $c < v + (N - \alpha)\alpha\bar{a}/ (N - 1)$. If the share of naive consumers is very small $\alpha \approx 0$, this condition simplifies to the usual one that $c < v$. If the share of naive consumers is large ($\alpha \approx 1$), on the other hand, this simplifies to $c < v + \bar{a}$. The market in this case may only exist because naive consumers underestimate the amount they end up paying when deciding to purchase.

Proposition 1 characterizes the possible equilibria in this model:[18]

Proposition 1 (Equilibrium in the Presence of Arbitrageurs).

I.   If $\bar{a} > e + c$ and $\alpha\bar{a} < e + c$, then there is a unique Nash equilibrium which is symmetric and in which $f = -e$, arbitrageurs do not enter the market, and firms earn positive profits.

II. If $\bar{a} > e + c$ and $\alpha\bar{a} > (N - \alpha)(e + c)/(N - 1)$, there is a unique symmetric Nash equilibrium, in which $f = c - \alpha\bar{a}$, arbitrageurs enter the market, and firms earn zero profits.

III. If $\bar{a} > e + c$ and $(N - \alpha)(e + c)/(N - 1) > \alpha\bar{a} > e + c$, there are two symmetric Nash equilibria, given by parts I and II above.

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[18] For simplicity, the proposition states only the symmetric equilibria in Cases II-IV. For the same reasons as in a standard Bertrand model with more than two firms, when equilibrium profits are zero there exist multiple equilibria, but which of these equilibria affects neither firm profits nor consumer welfare.

IV. If $\bar{a} \leq e + c$, there is a unique symmetric Nash equilibrium in which $f = c$ — $\bar{a}$, arbitrageurs do not enter the market, and firms earn zero profits.

Proof. We first derive the existence of Nash equilibria in each case, and then show that the equilibrium is unique in Case I, and no other symmetric Nash equilibria exist in Cases II-IV.

First, we focus on symmetric pure-strategy Nash equilibria and prove the existence of the above equilibria in each case. A pure strategy corresponds to choosing an up-front fee f. We show that naive consumers buy the product in any symmetric pure-strategy equilibrium outcome. We prove this by contradiction. First, suppose that there exists an equilibrium such that only arbitrageurs buy the product. Then, usual Bertrand-type price-competition arguments imply that $f = c$ and firms earn zero profits. If a firm deviates and sets its up-front price slightly above $f' = c — \alpha\bar{a}$, however, it attracts both naive consumers and arbitrageurs and earns positive profits— a contradiction. Second, suppose that there exists an equilibrium in which no one buys the product. Hence $f > c — (N — \alpha)\alpha\bar{a}/(N — 1)$. If a firm sets its up-front price slightly above $f' = c — \alpha\bar{a}$ but below f, however, then the firm attracts naive consumers (and possibly also arbitrageurs) and earns positive profits—a contradiction. Thus, naive consumers buy the product in any symmetric pure-strategy equilibrium.

We next derive conditions under which a symmetric pure-strategy equilibrium exists in which arbitrageurs and naive consumers enter the market. This requires that $f \leq —e$. Firms make $f — c$ on arbitrageurs, and $f + \bar{a} — c$ on naive consumers. This can only be an equilibrium if profits are non-negative, that is,

$$f \geq c — \alpha\bar{a}.$$

Since for arbitrageurs to enter we must have $f \leq — e$, the above requires

$$\alpha\bar{a} \geq c + e.$$

If this is the case, Bertrand-type price-competition arguments imply that firms set f such that Inequality 1 holds with equality in a symmetric pure-strategy equilibrium in which arbitrageurs enter.

We now derive conditions under which there is a symmetric pure-strategy equilibrium in which arbitrageurs do not enter the market. This requires that $f \geq c - e$. A firm's profits in this case are $\alpha (f + \bar{a} - c)/N$. If $e \geq \bar{a} - c$, then it is easy to see that there is an equilibrium in which $f = c - \bar{a}$ and firms earn zero profits. Conversely, in a symmetric pure-strategy equilibrium firms cannot be charging a price below $c - \bar{a}$ as this would induce losses, and any price above $c - \bar{a}$ cannot be sustained because than a firm could profitably deviate by undercutting by an appropriate amount and selling to naive consumers only. But now suppose that $e < \bar{a} - c$. We first argue that firms cannot sustain a price $f > -e$ in a symmetric pure-strategy equilibrium. In such a candidate equilibrium naive consumers must buy by our argument above, and thus firms make positive profits. But then for any price $f > -e$, a firm can profitably deviate by minimally undercutting f and attracting all naive consumers without attracting arbitrageurs. Hence $f = -e$ in a candidate equilibrium. For this to be an equilibrium, it must also be the case that a firm does not want to deviate by offering a lower f. Such a firm will attract all naive consumers and all arbitrageurs, and make less than $-e - c$ on arbitrageurs, and $-e + \bar{a} - c$ on naive consumers. This is unprofitable if

$$\frac{\alpha}{N}(-e + \bar{a} - c) \geq -e - c + \alpha\bar{a},$$

or

$$\alpha\bar{a} \leq \frac{N - \alpha}{N - 1}(e + c)$$

The above considerations imply the existence of equilibria stated in Proposition 1.

Next, we show that there is no other equilibria under Case I. Note that if a firm sells its product to arbitrageurs, its profits is at most $-e-c+\alpha\bar{a}<0$ in this case. It implies that no firm sets $f<-e$ with positive probability in any equilibrium. Then, usual Bertrand-type price-competition arguments and positive profits by setting $f=-e$ lead to the fact that each firm sets $f=-e$ with probability one in any equilibrium. Thus, in Case I there exists a unique equilibrium in which every firm sets $f=-e$.

Finally, we show that no other symmetric Nash equilibrium exists in Cases II-IV. In Cases II and IV, usual Bertrand-type price competition leads to the result that no other symmetric Nash equilibria exist. Consider Case III. We prove by contradiction. Suppose there exists some other symmetric Nash equilibrium. Usual Bertrand-type price competition leads to the result that a firm sets $f>-e$ with probability zero in any symmetric equilibrium. If each firm sets $f \geq -e$ with probability zero, then usual Bertrand-type price competition leads to the result that each firm sets $f = c - \alpha\bar{a}$ in any symmetric equilibrium. Thus, without loss of generality we suppose each firm sets $f = -e$ with probability $q \in (0,1)$, and otherwise sets some $f<-e$. Let $Supp_{f<-e}(f)$ be the support of the equilibrium price distribution subject to $f < -e$. Note that $Supp_{f<-e}(f)$ is non-empty. Take the supremum of $Supp_{f<-e}(f)$ and denote it by $\tilde{f}$. Each firm never puts positive probability on $\tilde{f}$; otherwise a firm has an incentive to slightly decrease $\tilde{f}$. It implies that if a firm sets $\tilde{f}$, it can earn at most $q^{N-1}(-e-c+\alpha\bar{a})$. This is strictly less than $q^{N-1}\frac{\alpha}{N}(-e+\bar{a}-c)$, which the firm can earn by setting $f=-e$. Thus, for sufficiently small $\epsilon > 0$, a firm has an incentive to move its price distribution on $(\tilde{f} - \epsilon, \tilde{f})$ to $-e$, a contradiction.

In Case I, arbitrageurs generate a price floor $\underline{f} = -e$. The intuition is simple: if a firm makes its up-front offer too good, it not only attracts consumers away from other firms, it also attracts unprofitable arbitrageurs into the market. The potential for such

adverse selection generates a price floor and ensures positive profits for the industry.

It is interesting to note the relationship between the role of arbitrage in our model and its typical role in finance. The received wisdom in finance is that due to arbitrage, it is impossible to make supranormal profits. In our setting, the threat of arbitrage instead guarantees positive profits for firms.

There are two conditions for positive profits to occur. Condition $\alpha\bar{a} \leq e + c$ says that once arbitrageurs enter the market, ex-post profits from naive consumers do not compensate for the money handed out ex ante to consumers and arbitrageurs. Since it seems likely that α is small in many or most situations, this condition is often satisfied. Condition $\bar{a} > e+c$ says that the additional price firms can impose is greater than the sum of the production cost and arbitrageurs' effort cost. This means that firms cannot compete away ex-post profits without drawing arbitrageurs into the market. A simple back-of-the-envelope calculation shows that in some industries motivating our paper, this condition is also likely satisfied. Hackethal, Inderst and Meyer (2010), for instance, document that German "bank revenues from security transactions amount to €2,560 per customer per year, based on a mean portfolio value of €105,356 Euros." Even if annual account setup and management costs are €1,500 (likely a gross overestimate), and a consumer stays for only one year on average (presumably a gross underestimate), a bank would have to hand out over €1,000 to a new consumer to compensate for the future profits. It seems clear that many individuals would sign up for (and then not use) bank accounts just to get such handouts.

Case IV of Proposition 1 is in some sense the opposite of Case I. If the additional price firms can impose is less than the sum of the production cost and arbitrageurs' effort cost, firms are not limited in their competition by arbitrageurs and hence fully compete away ex-post profits. An example for this kind of situation is hotel rooms. For this application, we think of the price for the room itself as the up-

front fee, and the fees for add-on services—such as the minibar, in-room calls, and the hotel restaurant—as the additional prices. Since the add-ons are arguably a small part of the service, $\overline{a}$ is likely low relative to c, so that the condition for Case IV is likely satisfied.

The money taken from naive consumers ex post is handed back to them ex ante in Case IV, giving rise to a partial safety-in-markets result. The safety-in-markets result is only partial, however, because nothing ensures that the market is socially desirable (i.e. that $v > c$). The market may only exist because naive consumers underestimate their total purchase cost. Hence, even absent the threat of effective arbitrageurs, regulating and reducing $\overline{a}$ can be socially beneficial as it reduces the consumers' underestimation of their purchase costs, and hence may eliminate the existence of socially wasteful industries.

Proposition 1 has a number of comparative-statics implications for when a binding price floor obtains. Case I tends to apply when firms can charge a lot in additional prices and the product is relatively easy for arbitrageurs to get (so that $\overline{a}$ is high relative to c and e). In contrast, Case IV tends to apply either when firms cannot charge very much in additional prices, and either the product is expensive to produce (so that $\overline{a}$ is low relative to c) or arbitrage is costly (so that $\overline{a}$ is low relative to e).

Proposition 1 also identifies two additional possible cases that can be thought of as being in-between the above two extremes. As in Case I, in Case II firms cannot compete away ex-post profits without attracting arbitrageurs into the market. In this case, however, they can make non-negative profits even when arbitrageurs enter, so that they push prices low enough for arbitrageurs to enter. For example, due to the high ex-post profits they can make on gamblers, casinos in Las Vegas offer perks—such as cheap flights, hotel rooms, food, and alcohol—to attract visitors. These perks not only attract gamblers, but also "arbitrageur travelers" who are looking for a vacation and can get it cheaper in Las Vegas than elsewhere. While casinos may

lose money on these visitors, profits from gamblers are so high that they can still break even.

For a range of parameter values identified in Case III, there are two symmetric Nash equilibria: one in which arbitrageurs enter the market and firms earn zero profits, and one in which arbitrageurs do not enter the market and firms earn positive profits. Intuitively, multiple equilibria are possible when firms can make positive profits when arbitrageurs are present, but these profits are lower than what they earn when they just avoid attracting arbitrageurs. Then, if other firms set a price just high enough not to attract arbitrageurs ($f = -e$), it is unprofitable to undercut competitors. But when another firm sets a lower price, up to the point of zero profits it is profitable to undercut it and attract both consumers and arbitrageurs.

Recall that we argued that Case I is likely to obtain in many retail-finance markets. Now consider a regulatory intervention such as the US Credit CARD Act discussed above, which limits late payments, over-the-limit, and other fees to be "reasonable and proportional to" the consumer omission. In this model such a regulatory intervention corresponds to lowering the maximum additional price $\overline{a}$. If we remain in Case I after the intervention (or if it remains unprofitable to offer the product to arbitrageurs), then this intervention translates into a direct benefit to the consumers. This shows that one central argument brought up against such consumer protection legislation—namely that its cost will simply be handed on to consumers—is invalid in markets with binding price floors.

As a word of caution, we want to emphasize that the positive profits we predict are profits at the stage when possible entry costs are sunk and consumers have been identified. In other words, we explain why in seemingly competitive industries with many firms and relatively low entry costs, prices above marginal cost can be sustained. With free entry, however, this of course does not translate into positive economic profits taking all the firms' costs into account.

Binding price floors also have implications for firms' incentives to shift competition to add-on prices, educate consumers about superior products, invent new contract clauses or hidden prices, and the stability of deception when there are sophisticated and naive consumers in the market place. Based on the idea that in most retail-finance markets the threat of arbitrageurs severely limits any up-front payments to consumers, in Heidhues et al. (in preparation) we focus on these questions. Firms in that model can (costlessly) educate consumers about existing additional prices in the entire industry. This enables Arms to lower some of the additional prices when the price floor is binding, educate all consumers about the competitors higher additional prices, and try to attract consumers. Indeed, when selling a socially valuable product, an industry in which there are sufficiently many competitors, firms will educate consumers by unshrouding additional prices and competing on the total contract costs. Nothing, however, ensures that an industry is socially valuable when consumers misunderstand the contract costs; and in socially wasteful industries— independent of the number of competitors— firms will keep deceiving consumers even when educating them would be costless. Furthermore, we highlight that firms have strong incentives to engage in (non-appropriable) exploitative contract innovations—that is in finding new ways of charging consumers unexpected fees—while they have no incentives to engage in (non-appropriable) contract innovations that benefit consumers. Whenever socially superior products exist—for example index funds that are superior to managed mutual funds in the same asset class— deception is stable when sophisticated and naive consumers coexist independent of their proportions in the overall population; intuitively a superior product renders the deceptive product socially wasteful in comparison. We thus conclude that there is considerable scope for deception, and that the resulting deception can be stable and become worse absent regulatory intervention.

3.5   Conclusion

In this paper, we summarize recent work by ourselves and develop new results suggesting that in many economically important markets—especially retail-finance markets—the idea that vigorous competition is sufficient to protect consumers is problematic. In this conclusion, we discuss selected other work in which vigorous competition between firms in itself is also insufficient for consumers to be protected from exploitation. Above, we have emphasized that consumers can benefit from additional consumer-protection rules that limit hidden charges or high fees for changing ones mind a little in the credit market. In the consumer-protection debate such regulation is often referred to as "heavy-handed" and some scholars have pushed alternative, information-based approaches.[19] While we think many of these suggestions are interesting and potentially fruitful, we use this section to highlight that such information-based intervention can—similar to the regulation of addon prices—also have unintended consequences, and regulation will always have to weigh its direct benefits with such potential indirect costs.[20]

In seminal work, Gabaix and Laibson (2006) develop a model closely related to the one we introduced in Section 4. In their model, the market is populated by naive consumers who ignore a given add-on price and sophisticated consumers who observe this add-on price and can undertake costly, and inefficient steps to avoid it.[21] A

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[19] For a discussion of the potential benefits of such regulations, see Bar-Gill (2011).

[20] See Armstrong (2011) for some indirect costs of consumer-protection regulations with rational consumers.

[21] In Sections 4, we differ from Gabaix and Laibson (2006) by allowing for industries to be socially wasteful, and by assuming the existence of arbitrageurs rather than sophisticated consumers who can exert efforts to

good example may be roaming charges that naïve consumers ignore while sophisticated consumers take efforts to avoid calling from a foreign country and incurring high roaming charges. Because firms cannot ex ante differentiate between sophisticated and naive consumers, the ex-post exploitation profits from naives are handed out ex ante to attract consumers. In equilibrium firms break even by earning some money from naive consumers and losing money on sophisticated consumers. Gabaix and Laibson point out that in such an environment, firms have no incentive to educate consumers via unshrouding add-on prices. Once a firm unshrouds these add-on prices, some consumers become sophisticated. But such sophisticated consumers are unprofitable to attract because in the market equilibrium firms cross-subsidize sophisticated consumers from the profits they earn with naive ones. Interestingly—as is highlighted in Ko (2011)—in Gabaix-Laibson's framework educating consumers can lead to a total welfare loss. Often if only a few consumers are educated, the market equilibrium remains exploitative, and the newly educated consumers undertake inefficient efforts to avoid the add-on costs. If enough consumers become sophisticated, on the other hand, an exploitative equilibrium ceases to exist, which is welfare-increasing in their environment. The desirability of consumer eduction, thus, depends on its effectiveness in this environment.

In a similar vein, Grubb (2011) shows that providing more information to consumers can be detrimental to total welfare.[22] He

avoid the add-on price. This reflects our intuition that the threat of people interested in easy money is very real in many retail-finance markets, and that it. is efficient to keep such arbitrageurs out of the industry. Our analysis also focuses on different

[22] Heidhues and Köszegi (2009) demonstrate that more information can hurt a partially-naive decision maker with a self-control problem. More

focuses on services—e.g. mobile phone services—for which consumers who do not track past usage do not know the price of the next unit they are purchasing, and asks whether regulation that requires the disclosure of this price is beneficial. Such price-posting regulation, however, can hamper efficient screening in his model. High fees for high usage prevent high-value consumers from taking contracts designed for low-value ones, and absent price-posting regulation these high fees for high volume units do not distort low-value consumers' usage decision because these are based on an average price rather than the actual marginal price. Price posting, however, reveals the marginal price and distorts the low-value consumers' usage decisions.[23]

In a paper that seems especially relevant for the mutual fund market, Spiegler (2006) highlights that competitive markets can exist for socially wasteful products. In his model, consumers choose on the basis of the last performance from a small sample of randomly performing firms. Due to the consumers' mistaken inferences, past performance differences create an artificial product differentiation, which allows firms to earn positive profits and hence can explain the existence of markets for "quacks". Thus competition provides no safety to consumers with such mistaken beliefs. Furthermore, without educating consumers about their failure in reasoning, providing information to them is unlikely to weed out the existence of quacks. Educating consumers about their inability to reason, however, seems extremely difficult in practice.

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information may induce her to take costly, yet insufficient, attempts at self-control, which can in addition make later indulgence less enjoyable.

[23] When consumers underestimate their future demand, Grubb (2011) shows that price-posting regulation can be beneficial to consumers.

In addition, information-provision regulation can be inhibited by the fact that many consumers often (partially for good reasons) do not read contacts, systematically underestimate their demand for add-on services, forget payments they thought they would undertake, and hence systematically misestimate their costs. Information provision may be difficult if consumers have systematic mis-perceptions as in Spiegler (2006), and in the model of Section 3.3 consumers need to be *fully* educated about their own self-control problem for the educational effect to have any benefit to them.

Another, often relatively uncontroversial, regulation is one that increases the comparability between products. Increasing the comparability, however, can be counterproductive if it increases the firms' incentives to obfuscate in other ways (for a formal model thereof see Piccione and Spiegler (2010)). Regulators attempting to overcome welfare-losses from consumer misunderstandings will need to take such equilibrium effects into account and carefully monitor the market outcome.

In summary, we believe that the safety-in-markets argument severely overstates the benefits of competition in the presence of systematic consumer misunderstandings. A more subtle and difficult issue is whether there are feasible consumer-protection regulations that improve market outcomes. As is well-known from other areas of regulation, regulation typically involves unintended side-effects and these have to be balanced with potential welfare improvements. For example, in the model we present in Section 3.4 reducing the maximal additional price firms can charge typically translates into a direct benefit to consumers. Our model thus predicts that regulating and reducing ATM charges will not lead to a comparable increase in account fees. But in this example, it is extremely likely that it will lead to a reduction in the number of ATM-machines available, and regulators will have to balance the former positive with latter negative effect. Similarly, if a lower a in our model above can be circumvented through firms inventing other, novel ways of charging hidden fees, consumer protection will at minimum remain

incomplete. But as we have emphasized in this section—even were feasible—other interventions that focus on providing information or increasing comparability between products also have unintended side effects. Of course, the theoretical potential for counterproductive effects does not imply that regulation is undesirable per se. Rather, we believe that its benefits and costs have to be investigated on a case-by-case basis.

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4 Behavioral Exploitation and its Implications on Competition and Consumer protection policies

By Maurice E. Stucke[*]

4.1 Introduction

As The financial crisis is a good time to rethink competition policy. In particular, policymakers can reconsider three fundamental questions: *First*, what is competition? *Second*, what are the goals of the competition law? *Third*, what should be the legal standards to promote those objectives? To fully evaluate competition policy, one has to address these three questions.

The first question--what is competition--seems so basic, that it need not be asked. But one cannot address the second and third questions, without first having a theory of competition. Take, for example, Robert Bork's famous book, *The Antitrust Paradox*, which outlined the Chicago School antitrust theories. Bork first looked at several definitions of competition and found them all lacking (Bork, 58-61). He then defined competition, which matched his goal of competition law (promoting his conception of consumer welfare), and then outlined the legal standards to promote his goal.

There does not appear to be a satisfactory unifying theory of competition. Although the United States' Sherman Act was enacted over a century ago, the law, as Bork observed, 'has not arrived at one

satisfactory definition of "competition"' (Bork, 61). This is surprising. The concept of competition is central to competition policy and economic thinking in general. Competition law focuses on anti-<u>competitive</u> restraints, and one oft-described goal is to ensure an effective competitive process.[1] Yet the concept of competition, John Vickers said, 'has taken on a number of interpretations and meanings, many of them vague' (Vickers, 3). Others agree.[2] We typically view competition several ways: as an idealized *end state* (such as static price competition under the economic model of perfect competition), as a dynamic process, or as a form of rivalry (the effort of two or more independent parties acting to secure the business of a third party by offering the most favorable terms).

Why hasn't there been a single, well-accepted unifying definition of competition? Any theory of competition will have various premises, including (i) the role of legal and informal institutions, such as social, ethical, or moral norms, in affecting behavior, (ii) transaction costs, (iii) the degree to which market participants act independently of one another, and care about the interests of others, (iv) the amount of knowledge relevant to the transactions, and (v) the rationality of the market participants.

This Chapter focuses on one premise for any theory of competition: namely, the extent to which firms, consumers, and the government are rational and act with perfect willpower. Part I provides an overview of the behavioral economics' findings on

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[1] Unilateral Conduct Working Group, Int'l Competition Network, 'Report on the Objectives of Unilateral Conduct Laws, Assessment of Dominance/Substantial Market Power, and State-Created Monopolies' (2007) 6,
http://www.internationalcompetitionnetwork.org/media/library/unilateral_conduct/Objectives%20of%CC20Unilateral%CC20Conduct%CC20May%2007.pdf.

[2] Stucke, Reconsidering Competition, 112 n. 21.

bounded rationality, willpower and self-interest. Part II examines the implications of behavioral economics on our theory of competition, by contrasting two scenarios: the current paradigm (Scenario I) which assumes market participants are rational with willpower, and Scenario II, which relaxes the assumption of consumers' rationality and willpower.

4.2 Assumptions of Rationality, Willpower and Self-Interest

In the United States, the three long-standing schools of competition policy - the Chicago School, post-Chicago School, and Harvard School - all assume that market participants are rational, as defined under neo-classical economic theory, with perfect willpower, who pursue their economic self-interest. The behavioral economics literature has critiqued for decades the neo-classical economic theories' 'rationality' assumption as being unrealistic. Actual behavior - characterized as bounded rationality, willpower and self-interest—often varies from rational choice's predicted outcome.

A. Rationality v. Bounded Rationality

Rationality, as historically defined, went beyond means-end reasoning, and reflected normative values. Foremost, rationality involved the choice of end. Among many ends (such as fame, fortune, or power), rationality was choosing the proper end (such as happiness), which represented the highest and most complete end, and the means of attaining that end (virtuous life). Aristotle, for example, viewed rationality as the exercise of reason, which was in accord with living a virtuous life. Behavior motivated by wealth maximization was neither rational, in accord with a virtuous life, nor likely to lead to happiness, but rather an appetite devoid of rationality.

Likewise, the early economists did not consider means-end reasoning or utility (wealth) maximization as synonymous with rational behavior. Adam Smith, for example, defined prudence as '[w]ise and judicious conduct, when directed to greater and nobler purposes than the care of the health, the fortune, the rank and reputation of the individual' (Smith, part VI, section 1, line 15).

Later economists, however, abandoned such normative theories implicating moral values for the scientific aura of positive economics. 'It is not the province of the Political Economist to advise,' stated David Ricardo. 'He is to tell you how to become rich, but he is not to advise you to prefer riches to indolence, or indolence to riches' (Ricardo, 338). Rationality evolved under neoclassical economic theory to a narrow meaning. People, either individually or collectively, 'maximize their utility from a stable set of preferences and accumulate an optimal amount of information and other inputs in a variety of markets' (Becker, 14). People are objective. They seek out the optimal amount of information. They readily and continually update their factual beliefs with relevant and reliable empirical data. And they choose the best action according to stable preferences.

The behavioral economics literature does not focus on the normative issue of what is rational behavior. Instead, the behavioral economists, through behavioral laboratory and field experiments, empirically test the assumptions of neo-classical economic theory.

The behavioral economic literature found several important deviations. First is the degree to which people engage in reasoning (System 2) versus intuition (System 1) (Kahneman, 2011 19-105). Even under System 2, people can rely on rules of thumb (heuristics) in making decisions, and engage in a couple of steps of iterated reasoning.

Second, people are not perfectly objective. We may maintain an illusion of objectivity, but our perception of ourselves, other people, and events are biased. Our prior beliefs and goals can motivate our reasoning. As a result, we access only a subset of our relevant knowledge and give undue weight to evidence that supports our

beliefs, while discounting evidence that undercuts our beliefs (Kunda, 482–95). In one experiment, subjects were randomly assigned the role of plaintiff or defendant in a lawsuit by an motorcyclist injured by an automobile driver (Babcock & Loewenstein, 328). After reading the same twenty-seven pages of evidentiary materials from an actual Texas lawsuit, the subjects predicted what the judge had awarded and what a "fair" settlement would be. Participants playing the plaintiff predicted a significantly larger award by the judge (on average $14,527 higher than defendants' prediction). The plaintiffs and defendants each recalled more arguments favoring their side, and weighed the arguments favoring their side more heavily. In a later experiment, the subjects first read the case materials and offered their estimates of the judge's award and a fair settlement. Only then were they told of their role as plaintiff or defendant. Those who learned their roles after they offered estimates had closer estimates of the likely award, and were significantly more likely to settle.

A third deviation from neoclassical theory is that people do not weigh the utilities of outcomes by their probabilities. Prospect theory, borne out from behavioral experiments, has several important findings (Kahneman & Tversky, 1979, 265-68). First, when choosing between a sure gain and a gamble for a slightly higher amount, people are risk adverse. More people choose the sure gain ($3,000) than the higher discounted value represented by the gamble (an 80% likelihood of winning $4,000). Second, when choosing between a sure loss and a gamble that presents a greater loss, people become risk seeking. More people now choose the gamble (an 80% likelihood of paying $4,000) than paying the sure loss ($3,000). Third, the reference point is important: consumers' responses will vary if the option is perceived as avoiding a loss (consumers more risk seeking) or as a sure gain (consumers more risk adverse) (Kahneman, 2003, 1458). Fourth, losses closer to the reference point hurt more than twice the joy from comparable gains (Kahneman, 2003, 1456). Suppose one could measure happiness and sadness in standard units (say utils). Prospect theory predicts that if the joy in

finding $100 is 100 utils, then the pain in losing $100 would be between 200 and 250 utils. Prospect theory can help explain several behavioral phenomena, such as loss aversion, sunk cost fallacy, endowment effect, and framing effects.

B. Willpower v. Bounded Willpower

Neoclassical economic theory predicts that people act to promote their short- and long-term interests. They eat, drink, exercise, and save the optimal amount. But as the behavioral experiments confirm, consumers with imperfect willpower sacrifice their desired long-term interests (such as increased savings) for immediate consumption (and increased debt). People take actions that they know conflict with their long-term interests. They lack willpower to choose options with immediate costs that provide long-term benefits (e.g., exercising) over activities with immediate rewards but little long-term benefits (e.g., watching television). Recognizing their bounded willpower, some use commitment devices, such as having money automatically deducted from salary into savings or retirement accounts.

C. Self-interest v. Bounded Self-interest

Self-interest, narrowly defined, means people seek to maximize their wealth and other material goals, and generally do not care about other social goals to the extent they conflict with personal wealth maximization.

As the behavioral experiments confirm, human motivation is more nuanced and complex than the simplistic assumption of economic self-interest. People care about treating others, and being treated, fairly. Recent experiments in bargaining settings, for example, show 'that substantial fractions of most populations adhere to moral rules, willingly give to others, and punish those who offend

standards of appropriate behavior, even at a cost to themselves and with no expectation of material reward' (Bowles, 1606). This 'strong reciprocity' in human behavior, however, also entails 'a predisposition . . . to punish [at personal cost] those who violate the norms of cooperation . . . even when it is implausible to expect that these costs will be repaid' (Gintis et al., 2003, 153–54). Similarly, behavioral experiments suggest that many people do not initially free ride (or to the extent that neoclassical theory predicts) (Fehr & Gächter, 2000, 986). In these public goods experiments, 'people have a tendency to cooperate until experience shows that those with whom they're interacting are taking advantage of them' (Thaler, 14). Indeed, in the public goods experiments, a punishment mechanism, which imposes a non-recoverable cost on the punisher, deters free-riding (Fehr & Gächter, 2000, 986, 989).

One frequently cited experiment of bounded self-interest is the 'Ultimatum Game.' Player 1 is given some money (say $100) and must offer Player 2 some portion thereof. If Player 2 accepts the offer, both can keep the money. If Player 2 rejects the offer, neither can keep the money. If you were Player 1, how much would you offer? If you were Player 2, what is the lowest amount you would accept?

Neoclassical economic theory predicts you will offer the smallest amount—one cent. If everyone pursues their self-interest, Player 1 wants as much money as possible, here $99.99. Player 2 does not fault Player 1's greed; Player 2 would do the same if given the chance. Player 2 recognizes that $0.01 is better than nothing, and accepts it. Who behaves this way? Chimpanzees (for raisins, at least) (Jensen et al., 107).

Most people, on the other hand, do not behave as neoclassical economic theory predicts. Few offer the nominal amount in the Ultimatum Game, and when offered, few accept it. Researchers expanded the Ultimatum Game (and public good and dictator

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games) beyond university students to fifteen small-scale economies from twelve countries on four continents (Henrich et al., 2001, 73-78). The groups studied included three foraging groups,[3] six slash-and-burn horticulturists,[4] four nomadic herding groups,[5] and two sedentary, small-scale agricultural societies.[6] In the field experiments, the subjects played anonymously in one-shot games, with an amount equivalent to 1 to 2 days wages. Contrary to neo-classical economic theory, everyone offered more than the nominal amount. But the average amount offered--from 26 percent to 58 percent of the total amount--varied more among these small-scale societies than in industrial societies, where the mean offers are 'typically close to 44 percent.' Group-level differences in 'payoffs to cooperation' (how important and how large a group's payoffs are from cooperation in economic production) and degree of market integration (how much do people rely on market exchange in their daily lives) explained a substantial portion of the behavioral variation across these 15 societies. The higher the degree of market integration and the higher the payoffs to cooperation, the greater the level of cooperation and sharing in experimental games. Moreover, 'the nature and degree of cooperation and punishment in the experiments,' they found, were 'generally consistent with economic patterns of everyday life in these societies. In a number of cases, the parallels between experimental game play and the structure of daily life were quite striking.'

Bounded self-interest raises several issues. People do not predictably seek to maximize wealth, so should self-interest be the

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[3] The Hadza of East Africa, the Au and Gnau of Papua New Guinea, and the Lamalera of Indonesia.

[4] The Aché, Machiguenga, Quichua, and Achuar of South America and the Tsimane and Orma of East Africa.

[5] The Turguud, Mongols, and Kazakhs of Central Asia, and the Sangu of East Africa.

[6] The Mapuche of South America and Zimbabwe farmers in Africa.

desired norm? The neo-classical theories of rationality and willpower arguably are at least normatively justifiable. Who would not want to be more rational or have greater willpower? But the pursuit of self-interest is not a widely shared norm. Nor is it self-evident that self-interest is necessary for a market economy to function effectively. Moreover, there are the risks if governmental policies promote self-interested behavior. Although many people are not inherently selfish, if they perceive that many others are behaving selfishly (such as cheating on their taxes), they may be more inclined to behave selfishly as well (Fehr & Fischbacher, 167).

Consequently, there is nothing inherently virtuous about self-interested behavior. Self-interested market participants–free of social and ethical norms–are not a prerequisite for an effective market economy or promoting overall happiness.

4.3   Behavioral Economics' Implications on Theory of Competition

In relaxing the rationality and willpower assumption, one's conception of competition changes. Firms can be relatively more or less rational than consumers in displaying the biases and heuristics identified in the behavioral economics literature. Accordingly, our conception of competition can vary under the following four scenarios:

	Rational Consumers	*Bounded Rational* **Consumers**
Rational Firms	**I.**	**II.**
Bounded Rational **Firms**	**III.**	**IV.**

Several caveats are necessary. First, this Chapter simplifies by examining consumers' and firms' rationality. One can extend the analysis to the rationality of intermediaries (e.g., suppliers, wholesalers, and retailers), and firms as buyers and consumers as sellers of services. Second, it is an oversimplification to say that millions of consumers and firms are either rational or bounded rational. Under any scenario, some market participants will be relatively more rational and have greater willpower than others. Bounded rationality and willpower can increase or decrease over time. People at any moment can act 'more or less rationally depending on a host of situational, emotional, and other contingent influences' (Langevoort, 65). Nor is behavior consistent. People can behave differently depending on situational factors, such as when they are alone or in different groups. Third, firms as institutions can have biases and heuristics, although in different ways and degrees than consumers. Firms, at times, can minimize individual biases, but at other times (as with cults, mobs, and "groupthink") can displace independent thinking. Finally, this Chapter's baseline is a free-market economy. With a centrally-planned economy, the analysis begins by examining the government's rationality relative to private firms and consumers.

With these caveats in mind, the purpose here is to explore generally how our theory of competition changes depending on the relative rationality of market sellers and consumers. This Chapter explores Scenarios I's and II's implications on a theory of competition.

A. Scenario I: Both Market Participants and Consumers Are Rational.

This Scenario is consistent with neoclassical economic theory, and competition policy in many jurisdictions today.

An economic model can assume idealized conditions: *rational* market participants with *perfect* knowledge of the conditions of

supply and demand. Under these conditions, market participants 'are supposed to know absolutely the consequence[s] of their acts when they are performed, and to perform them in the light of the consequences' (Stigler, 12). Besides perfectly informed, rational profit-maximizing producers and consumers, a perfectly competitive market assumes transparent prices, highly elastic demand curves, and easy entry and exit. Price equals marginal cost. Market forces deliver the efficient level of outputs with the most efficient techniques, using the minimum quantity of inputs.

But perfect competition, critics have long argued, cannot serve as the policymaker's theory of competition. First, as the Chicago School jurist Richard Posner recognized, 'No market fits the economist's model of perfect competition.'[7] Second, perfect competition is inconsistent with a realistic view of competition, which over the past century has increasingly focused on productive and dynamic efficiencies. Imagine the reaction in an elite MBA program, where perfect competition is the idealized end-state. If true, perfect competition would render the graduate students' services and future employers' products as fungible and their high tuition unnecessary. 'Advertising, undercutting, and improving ("differentiating") the goods or services produced are all excluded by definition—"perfect" competition means indeed the absence of all competitive activities' (Hayek, 96). So, for MBA students,

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[7] FTC v. Elders Grain, Inc., 868 F.2d 901, 907 (7th Cir. 1989); *accord* United States v. Realty Multi-List, Inc., 629 F.2d 1351, 1368 (5th Cir. 1980) ("Perfect competition is a theoretical concept; all markets are subject to varying degrees of imperfections . . . .") (quoting Arthur D. Austin, *Real Estate Boards, and Multiple Listing Systems as* Restraints *of Trade*, 70 COLUM. L. REV. 1325, 1353 (1970)); Antitrust Modernization Comm'n, Report and Recommendations 2 (2007), *available at* http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf ("[T]he real world contains very few such markets.").

competition 'is a perpetual flight from the zero-profit abyss' (Adelman, 1197). Third, the model, which idealizes homogeneity in products and knowledge, is far from desirable. Who wants to live in a world where after providing homogenous goods and services, we drive homogenous cars to homogenous homes?[8] Perfect competition is neither descriptive nor normative, and of little utility in dealing with day-to-day antitrust issues.

The next gradation is to assume *rational* actors with *incomplete* knowledge. Some information is unobtainable. Other information, while obtainable, is too costly to procure. In this market economy, the Austrian School economist Ludwig von Mises observed, rational consumers, not firms, should be supreme. In their purchasing behavior, consumers ultimately determine 'what should be produced and in what quantity and quality' (Mises, 17). Mises, with his belief in consumer sovereignty, was skeptical about the evils of private monopolies—rational consumers with willpower often can take care of themselves in the marketplace. This is not always true.[9] Imperfect information and informational asymmetries, for example, can lead to

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[8] One example was the Cultural Revolution in China where '[a]ny form of personal taste in clothing was out of bounds—women wore uniformly flat heels and most people donned Red Guard-style green uniform jackets, baggy trousers and caps, with a badge of the Chairman [Mao] on the tunic pocket' (Fenby, 457).

[9] See, e.g., Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 477-78 (1992); Queen City Pizza, Inc. v. Domino's Pizza, Inc., 124 F.3d 430, 446 n.4 (3d Cir. 1997) (Lay, J., dissenting) ("Kodak is merely a concession to fact that markets do not always work perfectly, and sometimes, but not always, these [information] imperfections can create sufficient market power to justify possible antitrust liability.").

'lemon' markets where dishonest sellers drive out honest sellers (Akerlof, 495).[10]

The trickier aspect is Scenario II, involving *bounded rational* actors with *imperfect* willpower, who act with *incomplete* knowledge.

Scenario I's Policy Implications Assuming the Government Is Rational.

A trinity of rational firms, consumers, and government paradoxically can justify either limited government or a centrally-planned economy (Cassidy, 59). As Stigler observed, a 'perfect market may also exist under monopoly' (Stigler at 14). Logically monopolies can be private or government enterprises. If the latter, a state planner could model scenarios using the hypothetical profit-maximizer and centrally plan for the desired outcome. Because rational profit-maximizing behavior is predictable, a temptation exists to nudge competition closer to perfect competition under 'the guiding hand of some elite corps of governmental and non-governmental policy-makers' (Blake & Jones, 378).

On the other hand, the stronger the presumption of rationality, the laissez-faire argument goes, the more likely the market is perceived in becoming efficient, the less need for governmental regulation.[11] Generally, rational market participants acting with the

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[10] See FTC v. Winsted Hosiery Co., 258 U.S. 483, 494 (1922) ("The honest manufacturer's business may suffer, not merely through a competitor's deceiving his direct customer, the retailer, but also through the competitor's putting into the hands of the retailer an unlawful instrument, which enables the retailer to increase his own sales of the dishonest goods, thereby lessening the market for the honest product.").

[11] *See* Town Sound & Custom Tops, Inc. v. Chrysler Motors Corp., 959 F.2d 468, 485 n.23 (3d Cir. 1992) ("Most of the work of 'Chicago School' theorists has centered on the general proposition that significant economic harm cannot occur (and hence the antitrust laws should not interfere) in competitive markets.").

optimal amount of information in markets with no negative externalities, require little governmental protection. Transactions are presumably mutually beneficial: market participants contract to further their interests. The government perhaps can facilitate competition by reducing the market participants' transaction costs (such as providing model contracts and well-functioning judiciary system) or by lowering the participants' search and information costs (such as combating fraud). But the stronger the rationality presumption, the more likely the government, subject to rent-seeking, is perceived to impede competition.

Even in Scenario I, it does not follow that the government does little. First, the government must address the market failures identified under neoclassical economic theory, such as: (i) the sustained exercise of market power; (ii) externalities; (iii) public goods; and (iv) significant informational asymmetries or uncertainty. So the rational government can increase price transparency (by restricting competitors' concerted efforts to reduce it or mandating public disclosures), internalize negative externalities (such as imposing on polluters a carbon tax), prosecute anticompetitive restraints of trade (such as price-fixing cartels or monopolist's efforts to unfairly increase rivals' costs or deter entry), and enjoin mergers to monopoly.

Second, competitive markets do not always yield the best or desired outcome. 'It is *not* a correct deduction from the Principles of Economics that enlightened self-interest always operates in the public interest' (Keynes, 39). Unbridled capitalism 'does not automatically produce what people really need; it produces what they *think* they need, and are willing to pay for' (Akerlof & Shiller, 26). Competition can maximize output of financial products that eventually wipe out the economy.

Third, the government must address behavior that is individually rational but collectively irrational. In examining the financial crisis, for example, Posner described how rational self-interested behavior of 'law-abiding financiers and consumers can

precipitate an economic disaster' (Posner, 2009, 107). Self-interest, for Posner, is a private virtue: competition drives businesses to profit-maximization, which drives economic progress. But competitive self-interested behavior, at times, is a public vice. An overleveraged financial institution can ignore the small probability that its risky conduct in conjunction with its competitors' risky conduct may bring down the entire economy. Each firm in pursuing its self-interest will incur greater leverage to maximize profits. So even for rational-choice theorists like Posner, the government must act as a countervailing force to such self-interested private behavior by better regulating financial institutions.

Scenario I's Policy Implications Assuming the Government Is Bounded Rational.
Rational firms and consumers often will be worse off when a bounded rational government seeks to regulate their competitive behavior. Market forces invariably would provide a more efficient or timely solution.

But one first must inquire why the government is less rational than the market participants. One theory is dispositional—the government attracts bounded rational employees, namely those 'unfit to serve [their] fellow citizens,' but who want to rule them (Mises, 75). This assumes that civil servants' disposition differs from consumers' and firms'. Government workers, however, are also consumers (and former employees in private firms). Consequently, it is unlikely that civil servants are more rational in their private market transactions (or prior jobs) than in their government offices.

A second theory is that bounded rationality is situational. Market forces provide greater incentives for private firms and consumers to improve their willpower and rationality (Glaeser, 140-41, 144-45). In their work decisions, civil servants, in contrast, have weaker incentives to avoid mistakes because of political myopia, the lack of direct accountability to voters, and regulatory capture. Under this theory, attracting business executives to oversee government agencies, and promoting a revolving door between the government

and private sector will not eliminate bounded rationality, as the situational forces remain. The bureaucracy is not structured to experiment for the purpose of maximizing profits, but for the employees, consistent with the rule of law, to 'obey rules and regulations established by a superior body' (Mises, 55).

Logically under this scenario, a bounded rational government should not be problematic for competition policy. There exists the risk that the government, captured by powerful interests, impedes competition. But rational citizens, recognizing this risk, would rely on structural, rather than behavioral, safeguards to prevent the concentration of power in either the government or marketplace.[12] Accordingly, the demand for governmental antitrust enforcement would arise in instances of sustained market failure, which market forces cannot correct. The bounded rational government would undertake measures (preferably structural) to prevent (or remedy) the market failures, under the careful guidance of rational voters. But rational market participants in a well-functioning democracy would increasingly rely on market forces for the solution.

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[12] *See* U.S. Dep't of Justice, Antitrust Div., Antitrust Division Policy Guide to Merger Remedies 7 (Oct. 2004), *available at* http://www.justice.gov/atr/public /guidelines/205108.pdf (stating that structural remedies in merger cases are preferred as "they are relatively clean and certain, and generally avoid costly government entanglement in the market"); Louis D. Brandeis, Address before the New England Dry Goods Association at Boston (Feb. 11, 1908), *in* THE SOCIAL AND ECONOMIC VIEWS OF MR. JUSTICE BRANDEIS 386, 386 (Alfred Lief ed., 1930) (observing how accepting mergers to monopolies with behavioral safeguards is like "surrendering liberty and substituting despotism with safeguards").

A. *Scenario II: Firms Are Relatively More Rational Than Consumers.*

What are Scenario II's implications on our theory of competition? Behavioral economics, commented one of its pioneers, uses scientific methods to explore human behavior already known to 'advertisers and used-car salesmen' (Belsky & Gilovich, 23) (quoting Amos Tversky). Here rational firms can compete either to (i) help consumers find solutions for their bounded rationality and willpower or (ii) exploit consumers' bounded rationality or willpower. Rational firms can manipulate consumption decisions by:

(i) using framing effects and changing the reference point, such that the price change is viewed as a discount, rather than a surcharge;[13]

(ii) anchoring consumers to an artificially high suggested retail price, from which bounded rational consumers negotiate;[14]

(iii) adding decoy options (such as restaurant's adding higher priced wine) to steer consumers to higher margin goods and services;[15]

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[13] Consumers may be less concerned with the elimination of a discount than a price increase (although both have the same net effect) (Kahneman, 2003, 1458). Thus, deviations from the perceived reference point may be marked by asymmetric price elasticity: consumers may be more sensitive to (and angry about) price increases than when the manufacturer eliminates a discount or does not reduce prices during periods of deflation.

[14] In one experiment, MBA students put down the last two digits of their social security number (e.g., 14) (Ariely, 25-28). The students, then participants, monetized it (e.g., $14), and then answered for each bidded item "Yes or No" if they would pay that amount for the item. The students then stated the maximum amount they were willing to pay for each auctioned product. Students with the highest ending SSN (80-99) bid 216 to 346 percent higher than students with low-end SSNs (1-20), who bid the lowest.

(iv) using the sunk cost fallacy to remind consumers of the financial commitment they already made to induce them to continue paying installments on items, whose value is less than the remainder of payments;[16]

(v) using the availability heuristic[17] to drive purchases, such as an airline travel insurer using an emotionally salient death (from 'terrorist acts') rather than a death from 'all possible causes';[18]

(vi) using the focusing illusion in advertisements (i.e., consumers predicting greater personal happiness from consumption of the advertised good and not accounting one's adaptation to the new product);

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[15] Similarly, people 'rarely choose things in absolute terms,' but instead based on their relative advantage to other things (Ariely, 2-6). By adding a third more expensive choice, for example, the marketer can steer consumers to a more expensive second choice. MIT students, in one experiment, were offered three choices for the *Economist* magazine: (i) Internet-only subscription for $59 (sixteen students); (ii) print-only subscriptions for $125 (no students); and (iii) print-and-Internet subscriptions for $125 (eighty-four students). When the "decoy" second choice (print-only subscriptions) was removed and only the first and third options were presented, the students did not react similarly. Instead sixty-eight students opted for Internet-only subscriptions for $59 (up from sixteen students) and only thirty-two students chose print-and-Internet subscriptions for $125 (down from eighty-four students).

[16] Lauren E. Willis, Decisionmaking and the Limits of Disclosure: The Problem of Predatory Lending: Price, 65 MD. L. REV. 707, 792 (2006).

[17] Tversky & Kahneman, 1974, 1127 (noting situations where people assess the 'frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind').

[18] See generally Eric J. Johnson et al., Framing, Probability Distortions, and Insurance Decisions, 7 J. RISK & UNCERTAINTY 35 (1993).

(vii) giving the impression that their goods and services are of better quality because they are higher priced;[19] and

(viii) seeking to avoid price competition through branding.[20]

Credit card issuers, as one example, can capitalize on this bounded rationality and willpower in two ways. First, they can compete in ways to encourage consumers to charge more and incur

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[19] Ariely, for example, conducted several experiments that revealed the power of higher prices. (Ariely, 181-86). In one experiment, nearly all the participants reported less pain after taking a placebo priced at $2.50 per dose; when the placebo was discounted to $0.10 per dose, only half of the participants experienced less pain. Similarly, MIT students who paid regular price for the "SoBe Adrenaline Rush" beverage reported less fatigue than the students who paid one-third of regular price for the same drink. SoBe Adrenaline Rush beverage was next promoted as energy for the students' mind, and students after drinking the placebo, had to solve as many word puzzles as possible within thirty minutes. Students who paid regular price for the drink got on average nine correct responses, versus students who paid a discounted price for the same drink got on average 6.5 questions right.

[20] Tversky & Kahneman, 1991, 1054-58. A famous antitrust example is Clorox, whose bleach is chemically indistinguishable from rival brands. FTC v. Procter & Gamble Co., 386 U.S. 568 (1967). Nonetheless, Clorox invested millions of dollars in promoting its brand of bleach, and often charged a higher price for its bleach. One would think that a market, where one company sells a fungible chemically indistinguishable product at a price premium, would be attractive for potential entrants. But Procter & Gamble sought to purchase Clorox rather than enter the liquid bleach market independently. And Clorox bleach, according to the company website, remains today the U.S. industry leader with eight out of ten American households using the brand. *About Clorox*, CLOROX, http://www.clorox.com/about-us/ (last visited Oct. 15, 2011).

greater debt (and maximize fees for the banks).[21] Second, credit card issuers can compete in helping consumers achieve their long-term interests by providing them with commitment devices. Every day, people have part of their salaries automatically deducted into separate investment accounts, hire personal trainers to ensure they exercise, or set their clocks slightly fast. Banks accordingly can help consumers increase personal savings by offering them credit cards designed toward that end. Consumers in their dispassionate state, for example, can elect to cap subsequent credit card purchases for certain categories of goods or services (e.g., limiting spending on Starbucks coffee to $5 per week).[22]

Scenario II competition depends in part on firms' ability to identify and exploit (or help) consumers. Firms may be unable to identify consumers whose biases, heuristics, and willpower make them more vulnerable. Identifying instances where bounded rationality can be exploited can be a business unto itself. Rational firms can target bounded rational consumers by offering to help them with their earlier problems, such as selling their time shares, preventing home foreclosures, or improving their credit rating.

But rational firms, even after identifying bounded rational consumers, cannot always exploit them. Many markets, unlike prediction markets, lack a defined end-point. A rational investor could 'short' a company's stock to profit when the stock price declines. But rational traders do not know when the speculative bubble will burst. Rational traders, due to investor pressure, can be

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[21] Bar-Gill & Warren, 56 ('[D]ata on credit choice and use show that consumer mistakes cost hundreds of dollars a year per consumer.').

[22] *See* Ron Lieber, *Your Card Has Been Declined, Just as You Wanted*, N.Y. TIMES, Aug. 13, 2010, at B1, *available at* http://www.nytimes.com/2010/08/14/your-money/credit-and-debit-cards/14money.html?src=me&ref=business.

subject to short-term horizons, and follow the herd for short-term gains (Shleifer & Vishny, 35). Rational traders may also make more money by creating products that encourage, rather than deter, speculation (Shleifer, 172).[23]

Alternatively, consumers, recognizing their bounded rationality, can turn for some decisions to more rational advisors or consumer advocates (such as publications by Which? and Consumers Union). Moreover the window for exploitation can be short-lived. Consumers can make better decisions as they gain experience, receive feedback quickly on their earlier errors, and discover some of the biases and heuristics in their earlier decisions.[24]

One policy implication of Scenario II is market failure, namely behavioral exploitation. In competitive markets, one expects rational firms to inform bounded rational consumers of other firms' attempts to exploit them. Providing this information is another facet of competition—trust us, we will not exploit you.[25] But too frequently, rather than compete to build consumers' trust in their business, competitors engage in similar exploitation.[26]

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[23] Citing several examples, including future contracts on tulips during the Tulipmania of the 1630s.

[24] John A. List, Does Market Experience Eliminate Market Anomalies?, 118 Q.J. ECON. 41, 41 (2003).

[25] *See* SCFC ILC, Inc. v. Visa USA, Inc., 36 F.3d 958, 965 (10th Cir. 1994) ('If the structure of the market is such that there is little potential for consumers to be harmed, we need not be especially concerned with how firms behave because the presence of effective competition will provide a powerful antidote to any effort to exploit consumers.' (quoting George A. Hay, *Market Power in Antitrust*, 60 Antitrust L.J. 807, 808 (1992))).

[26] *See*, *e.g.*, Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 474 n.21 (1992) (noting that "in an equipment market with relatively few sellers, competitors may find it more profitable to adopt Kodak's service

Rational firms can compete in finding cleverer ways to attract and exploit bounded rational consumers. The U.K.'s Office of Fair Trading recently experimented with five common price frames: (i) 'drip pricing,' where a lower price is initially disclosed to the consumer and additional charges are added as the sale progresses; (ii) 'sales,' where the 'sales' price is referenced off an inflated regular price (e.g., was $2, now $1); (iii) 'complex pricing' (e.g., three-for-two offers), where the unit price requires some computation; (iv) 'baiting,' where sellers promote special deals with only a limited number of goods available at the discounted price; and (v) 'time limited offers,' where the special price is available for a short period (OFT, 6). The OFT experiment found how firms can manipulate consumer consumption behavior and leave them worse off, especially under drip pricing and time-limited offers. Not surprisingly one sees in the US exploitive drip pricing for airline tickets,[27] car rentals,[28] and prepaid telephone calling cards.[29]

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and parts policy than to inform the consumers"); FTC v. R.F. Keppel & Bro., Inc., 291 U.S. 304, 308, 313 (1934) (finding that while competitors "reluctantly yielded" to the challenged practice to avoid loss of trade to their competitors, a "trader may not, by pursuing a dishonest practice, force his competitors to choose between its adoption or the loss of their trade"); Ford Motor Co. v. FTC, 120 F.2d 175, 179 (6th Cir. 1941) (Ford following industry leader General Motors in advertising a deceptive six-percent financing plan); Bennett et al., 118; Garcés, 150.

[27] The airlines are clever in their surcharges for pieces and weight of luggage, phone reservation fees, meals, beverages, headsets, extra legroom, etc. These extra fees often are not quoted in the initial price displayed to customers but later when consumers are completing their purchase. *See e.g.*, Alex Altman & Kate Pickert, *New Airline Surcharge: A Bag Too Far?*, TIME, May 22, 2008, *available at* http://www.time.com/time/business/article/0,8599,1808804,00.html; Jad Mouawad & Claire Cain Miller, *Search for Low Airfares Gets More Competitive*,

To exploit consumers, rational firms can compete in ways to reduce price transparency and increase the complexity of their products or product terms (Johnson & Kwak, 81, 108; Janger & Block-Lieb, 71; Bar-Gill & Warren, 27-28; Gabaix & Laibson, 505-08). Credit cards are one example. A single credit card account can have multiple Annual Percentage Rates ('APRs') for different types of credit extensions or that apply for limited time periods. General purpose credit card issuers can compete by reducing front-end costs, such as eliminating annual fees and substantially discounting initial interest rates. Consumers, ill-informed about the long-term costs of different credit cards, can make decisions on incidental benefits (such as receiving a T-shirt with the university logo when signing up for a credit card on a college campus). The credit card companies then overcharge the consumer on the less salient back-end costs, with higher late fees and penalties and over-the-credit-limit fees.[30] At

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N.Y. TIMES, Feb. 10, 2011, at B1, *available at* http://www.nytimes.com/2011/02/11/business/11air.html.

[28] *In re* Dollar Rent-A-Car Sys., Inc., 116 F.T.C. 255 (1993) (requiring Dollar to disclose to consumers in its ads the existence of any mandatory fuel charges, airport surcharges or other charges not reasonably avoidable by consumers); *In re* Value Rent-A-Car, Inc., 116 F.T.C. 245 (1993) (same); *In re* Gen. Rent-A-Car Sys., Inc., 111 F.T.C. 694 (1989) (requiring national car rental company to disclose charges that are mandatory or are not reasonably avoidable to every consumer that inquires about prices); *In re* Alamo Rent-A-Car, Inc., 111 F.T.C. 644 (1989) (settling charges that its operators failed to disclose to consumers the existence and amount of airport surcharges and mandatory fuel charges when consumers inquire about possible rental of Alamo's vehicles).

[29] Bennett et al., 117.

[30] *See* Press Release, Board of Governors of the Fed Reserve Sys., Statement by Chairman Ben S. Bernanke (May 2, 2008), *available at*

times, consumers are disclosed the information but do not understand the key terms that affect the cost of using their credit card; at other times, consumers simply do not act on the information.[31]

Rational companies can exploit consumers' optimism bias. One former CEO, for example, explained how his credit card company targeted low-income customers 'by offering "free" credit cards that carried heavy hidden fees.'[32] The former CEO explained how these ads targeted consumers' optimism: 'When people make the buying decision, they don't look at the penalty fees because they never believe they'll be late. They never believe they'll be over limit, right?'[33] Consumers are overoptimistic on their ability and willpower to pay the credit card purchases timely. They underestimate the costs of their future borrowings. So the optimistic consumers choose credit cards with lower annual fees (but higher financing fees and penalties) over better suited products (e.g., credit cards with higher

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http://www.federalreserve.gov/ newsevents/press/bcreg/bernankecredit20080502.htm.

[31] *See* James M. Lacko & Janis K. Pappalardo, *Improving Consumer Mortgage Disclosures: An Empirical Assessment of Current and Prototype Disclosure Forms, Federal Trade Commission Bureau of Economics Staff Report* ES-5 – ES-6 (June 2007), *http://www.ftc.gov/os/2007/06/P025505MortgageDisclosure Report.pdf* <*http://www.ftc.gov/os/2007/06/P025505MortgageDisclosure%20Report.pdf*>.

[32] *FRONTLINE: The Card Game*, (Nov. 24, 2009), *available at* http://www.pbs.org/wgbh/pages/frontline/creditcards/view/ (interview with former Providian CEO Shailesh Mehta).

[33] *Id*.

annual fees but lower interest rates and late payment penalties) (Bar-Gill & Warren, 46).

For other competitors, it may make sense to exploit consumer biases rather than incur the costs to debias. Suppose a credit card issuer incurs the cost to educate consumers of their bounded willpower and overconfidence. Other competitors can free-ride on the company's educational efforts and quickly offer similar credit cards with lower annual fees. Ultimately, such competition reduces the credit card companies' profits, without offering any lasting competitive advantage to the first-mover. Consequently, the industry makes more money exploiting consumers' bounded rationality. Consumers, overconfident in their financial prowess, will not demand better-suited products. Firms have little financial incentive to help consumers make better choices.[34] Market demand, accordingly, will skew toward products and services that exploit or reinforce consumers' bounded willpower and rationality.

Since behavioral exploitation is a form of market failure under Scenario II, a second policy implication under this Scenario is in distinguishing when behavioral exploitation benefits or harms society. At times, exploiting irrationality benefits society. Rational firms can dampen investors' speculation (e.g., buying a company's stock on the hope that past price increases will continue with future price increases). Predictions markets are a form of behavioral exploitation. Predictions markets typically involve a defined event (e.g., the winner of the US presidential elections) and end date when all bets are settled. Some may be overly optimistic about their predicted outcome. Rational investors can exploit this optimism, and

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[34] *See, e.g.*, HORIZONTAL MERGER GUIDELINES § 7.2 (noting how the market is more vulnerable to coordinated conduct if a firm that first offers a lower price or improved product to customers will retain relatively few customers after its rivals respond).

the prediction market as a result can yield remarkably accurate predictions (Camerer & Fehr, 52).

Scenario II's Policy Risks Assuming the Government Is Rational.

Customers under this scenario may reign supreme (in choosing commitment devices to address their bounded rationality and willpower) or be exploited. So in distinguishing between behavioral exploitation and when firms are helping bounded rational consumers, the government under Scenario II faces two difficulties.

One difficulty is that the government cannot necessarily rely on consumers' choices to infer their utility. Economists historically assessed people's preferences, not by their subjective beliefs or intentions, but by their actual choices. But if heuristics and biases systematically affect consumer decision-making, then consumer choices do not necessarily reflect actual preferences (Frey & Stutzer, 404-05; Kahneman & Krueger, 3-4; Garcés, 148). Bounded rational consumers can predict poorly as to what makes them happy.[35] At times, firms manipulate consumer choices through advertising and promotions.[36]

A second difficulty is that some sophisticated consumers, aware of their bounded rationality and willpower, will incur costs on commitment devices that could appear to a rational government as exploitative. Take for example Christmas club savings accounts. Bank customers deposit throughout the year into their Christmas accounts (which do not offer superior interest rates) and cannot

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[35] *See* Daniel Kahneman & Richard H. Thaler, *Utility Maximization & Experienced Utility*, 20 J. ECON. PERSP. 221 (2006); Daniel Kahneman et al., *Would You Be Happier If You Were Richer? A Focusing Illusion*, SCI., June 30, 2006, at 1908; David A. Schkade & Daniel Kahneman, *Does Living in California Make People Happy?*, 9 PSYCHOL. SCI. 345 (1998).

[36] *See* Derek Bok, The Politics of Happiness 76, 115-17, 206 (2010); John Kenneth Galbraith, The Affluent Society (2d ed. 1998).

withdraw the funds until the holidays. The government could view Christmas accounts as exploitative. Customers get less (in terms of interest rate and liquidity). Banks get more (longer time horizon to use funds without risk of withdrawals). Rational consumers with willpower would chose risk-free illiquid funds with better yields (e.g., Certificates of Deposit) or keep the funds in their savings accounts. But Christmas accounts provide bounded rational consumers with a commitment device and divisibility (namely a separate account earmarked for Christmas shopping).

Thus a key issue under Scenario II is how the rational government identifies and responds to sustained behavioral exploitation. Authoritarianism and corporate autocracy are two worst-case scenarios.

Under a market economy, consumers, through their informed economic decisions, should ultimately reign supreme. But if bounded rational consumers choose poorly, one danger is that the government by default decides for consumers. If consumers are bounded rational, the justification goes, markets are not functioning as efficiently as they could be; thus the state becomes the de facto guardian to protect its citizens from their irrationality. But a heightened concern about consumers' bounded rationality raises far greater social and political concerns over consumer sovereignty and 'the intrusion of bureaucracy into all spheres of human life and activity' (Mises, 14). The concern over behavioral exploitation can increasingly justify 'the subordination of every individual's whole life, work, and leisure to the orders of those in power and office' (Mises, 17).

In displacing individual autonomy, the rational government does not help consumers improve their willpower or rationality. Instead the government promotes learned helplessness. The government devotes greater energies to regulate marketplace

behavior and displace the market's function in finding solutions for consumers' problems.[37] After devising ways to improve consumers' diets and limit the consumption of unhealthy products, the government encourages citizens to use their leisure time more productively, such as exercising and reading, rather than watching television.

The concern is creeping authoritarianism. To protect its citizens, the government increasingly restricts the citizens' ability to manage their affairs. A bureaucracy that exists to protect bounded rational citizens has little incentive to improve the citizens' rationality and willpower. The bureaucrats' livelihood, authority, and status depend on citizens remaining sufficiently irrational to justify the bureaucracy's existence. Consumers are encouraged to register their complaints with the government, who intercedes on their behalf. The consumer complaints justify additional regulations to deter behavioral exploitation. Inevitably, the heavily regulated firms become de facto state enterprises. Further 'planning leads to dictatorship, because dictatorship is the most effective instrument of coercion and the enforcement of ideals and, as such, essential if central planning on a large scale is to be possible' (Hayek, 1944, 70).

Under this worst-case scenario, economic competition ceases as a concern. A centrally-planned economy headed by an authoritarian government eventually displaces personal liberty and experimentation by private firms. Thus some accept the cost of

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[37] *See* J. Thomas Rosch, Comm'r, Fed. Trade Comm'n, Intel, Apple, Google, Microsoft, and Facebook: Observations on Antitrust and the High-Tech Sector, Address at the ABA Antitrust Section Fall Forum (Nov. 18, 2010), *available at* http://www.ftc.gov/speeches/rosch/101118fallforum.pdf (recognizing "strong argument that having the state call the shots respecting consumer choice not only defeats the outcome that market forces would dictate, but also smacks of the kind of 'central planning' characteristic of a totalitarian state").

behavioral exploitation versus the greater costs in losing economic freedom.[38]

But a laissez-faire approach, whereby the government renounces any intention to regulate, raises another worst-case scenario, namely corporate autocracy. Here the outcome is also anti-democratic. Economically powerful firms lobby the government to refrain from regulating the marketplace. While economically exploiting bounded rational consumers, firms advocate the virtues of consumer sovereignty under a laissez-faire approach. Under this ideology, markets are presumed efficient (or heading toward greater efficiency). Once economic power and wealth are concentrated, the government and its competition policies are used to preserve the status quo. The dominant firms maintain their power by redefining the goals of competition policy. Antitrust enforcement is directed against any potential countervailing power (such as using the antitrust laws to prosecute unions, which happened early in the Sherman Act's history). Antitrust policy characterizes concentration, even to the brink of monopoly, as beneficial.[39] Political and social

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[38] One need only look at China's dismal experience under Mao Zedong's authoritarian regime. (Fenby, 525) (besides the human losses and suffering, estimating the economic cost of the Cultural Revolution at the equivalent of $34 billion). In defending the economic liberalizations in China's Special Economic Zones, one Chinese official queried how many state officials would be willing to live in a zone where leftist policies would be applied through "total state planning, rationing and queuing for food, where foreign investment and foreigners would be banned, and inhabitants would not be allowed to travel or send their children abroad." *Id*. at 648.

[39] Verizon Commc'n Inc. v. Law Offices of Curtis V. Trinko, LLP, 540 U.S. 398, 407 (2004) (praising monopoly profits as "an important element of the free-market system," in serving as an inducement to "attract[] 'business acumen' in the first place" and engage in "risk taking that produces innovation and economic growth").

concerns over dominant firms' influence and the effect of their size on the economy as a whole are dismissed as ill-founded fears over bigness and prosperity. The non-economic antitrust goals are deemed out of touch with the latest economic thinking, premised on rational choice theory. Once economic and political power is consolidated, monopolies and cartels become 'governmental instrumentalities to achieve political ends.'[40] Citizens cannot effectively use the democratic process to protect them; instead they navigate the market's dark alleyways, hoping that little economic harm comes to them.

Scenario II's Policy Risks Assuming the Government Is Bounded Rational.

The prospect of a bounded rational government raises additional policy risks. One risk is that competitors use consumer protection as a pretext for anticompetitive restraints. Under the objective of protecting consumers from making irrational decisions, competitors agree to compete only along some parameters, such as quality or service, rather than price. In *National Society of Professional Engineers v. United States*, for example, the competing engineers refused 'to discuss prices with potential customers until after negotiations . . . resulted in the initial selection of an engineer.'[41] The society claimed that if engineers discussed prices at the onset with prospective clients, low bids would result. The low bids would tempt individual engineers to do inferior work with consequent risk to public safety and health. The engineers' behavior, characterized favorably, was paternalistic. Customers, the engineers argued, could not account all

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[40] John H. Crider, Roosevelt Calls for Cartels Curb: In Letter to Hull He Says Types of 'Trusts' Used by Reich Must Be Ended, N.Y. TIMES, Sept. 9, 1944, at A1 (quoting President Roosevelt).

[41] 435 U.S. 679, 692 (1978).

the variables involved in the projects' actual performance.[42] The US Supreme Court rejected the engineers' justification.[43] But a bounded rational government, assuming that consumers choose poorly, might accept it, and effectively maintain a private cartel.[44]

Another policy risk arises from the overconfidence bias. Citizens are overconfident in the government's ability to regulate the market

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[42] *Id*. at 694 (engineers arguing that customers could not intelligibly decide whether its "interest in quality—which may embrace the safety of the end product—outweighs the advantages of achieving cost savings by pitting one competitor against another").

[43] *Id*. at 695 (recognizing its inability (and its lack of authority under the Sherman Act) to weigh the loss of price competition with the public benefit of preventing inferior engineering work and insuring ethical behavior, and characterizing engineers' justifications as "nothing less than a frontal assault on the basic policy of the Sherman Act"); *see also* FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 463 (1986) (rejecting defense that in competitive information market consumers will "make unwise and even dangerous choices").

[44] In *United States v. Kentucky Real Estate Commission*, the defendant served as the sole licensing authority for the state's real estate brokers. Complaint at 12, United States v. Kentucky Real Estate Comm'n, No. 3:05CV188-H (W.D. Ky. Mar. 31, 2005), *available at* http://www.usdoj.gov/atr/cases/f208300/208393.pdf. Four of the five commissioners were, as required by statute, active real estate brokers. The defendant banned brokers from offering homebuyers a cash rebate, such as $1,000, or an inducement, like a free television, if the buyer used that broker. To enforce its anticompetitive rebate ban, the defendant investigated alleged violations, asked real estate brokers to inform it when any competing brokers offered rebates or other inducements, and took disciplinary action against brokers who offered customers rebates or other inducements, including suspending or revoking brokers' licenses, imposing monetary fines, issuing reprimands, and requiring completion of additional academic credit hours. *Id*. at 33.

for abuses.[45] The bounded rational government is overconfident in its citizens' ability to fend for themselves[46] and the market's ability to self-correct.

A third policy risk is that the bounded rational government causes greater harm in protecting its consumers. Suppose after a recent disaster, for example, bounded rational consumers and the government under the availability heuristic overestimate the probability of that disaster recurring. The government overregulates the industry, while not addressing other less salient dangers that actually cause greater harm. Even without the government's help, bounded rational consumers can overreact, based on how the issue is

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[45] *See* Fannie Mae, THE GROWING DEMAND FOR HOUSING: 2002 FANNIE MAE NATIONAL HOUSING SURVEY 9 (2002), *available at* http://www.fanniemae.com/ global/pdf/media/survey/survey2002.pdf.

[46] For example, the Federal Trade Commission under the Reagan Administration limited Section 5 liability of unfair practices to injuries, which consumers could not reasonably have avoided. Fed. Trade Comm'n Policy Statement on Unfairness, Appended to Int'l Harvester Co., 104 F.T.C. 949, 1070 (1984). As the FTC stated:

> Normally we expect the marketplace to be self-correcting, and we rely on consumer choice—the ability of individual consumers to make their own private purchasing decisions without regulatory intervention—to govern the market. We anticipate that consumers will survey the available alternatives, choose those that are most desirable, and avoid those that are inadequate or unsatisfactory.

Id. The FTC Statement however recognized some forms of behavioral exploitation, such as when firms "exercise undue influence over highly susceptible classes of purchasers, as by promoting fraudulent 'cures' to seriously ill cancer patients." *Id.*

framed[47] or to rumors, causing social losses, a concern China's authorities recently raised.[48]

Policy Alternatives under Scenario II.

Consumers can be worse off when the government (whether rational or bounded rational) acts or does not act. So what should the government do, especially if the extent of its bounded rationality is unknown? The government has several options, some less paternalistic than others, to deter behavioral exploitation while preserving economic liberty and leaving room for innovation that benefits consumers.

One well-known behavioral remedy is for the government to alter existing, or create new, default rules (Thaler & Sunstein, 2008, 78). One recent issue was that banks were exploiting US credit card consumers' propensity to overspend their assigned credit limits. Suppose the consumer with bounded willpower sees designer-label shoes on the discount rack. The consumer has $20 of available credit; the shoes cost $100. The bank permits the consumer to charge the

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[47] *See* Marwan Sinaceur et al., *Emotional and Deliberative Reactions to a Public Crisis: Mad Cow Disease in France*, 16 PSYCHOL. SCI. 247 (2005), *available at* http://faculty-gsb.stanford.edu/heath/documents/PsychSci-Mad%20Cow.pdf. The field study showed how French newspaper articles more often featured the emotional label ''Mad Cow'' disease than the more abstract and scientific label (Creutzfeldt-Jakob disease, CJD, or bovine spongiform encephalopathy, BSE). Beef consumption dropped "significantly when many articles mentioned the Mad Cow frame during the previous month, but was unaffected by the number of articles in the previous month that mentioned the scientific frames." *Id*. at 251.

[48] Hu Meidong & Peng Yining, *Chinese Lacking Scientific Literacy: Knowledge Crucial to Development and Stability*, CHINA DAILY, Nov. 2, 2010, at 4 (expressing concern over a three hundred percent price increase of mung beans since April 2010 after false claim that beans cure cancer).

shoes, but extracts a high fee.[49] Overdraft fees were also an issue with debit cards, where the consumer makes a purchase for an amount greater than the balance in the consumer's bank account. In 2009, consumers paid a record $38.5 billion in overdraft fees, nearly double the amount reported in 2000.[50] Ninety-three percent of the overdraft revenues came from about fourteen percent of US bank accounts, with the larger banks charging the highest fees.[51]

Rather than prohibit outright over-the-limit fees or regulate the amount of such fees, the US Congress in the Credit CARD Act of 2009 chose a behavioral remedy: it changed the default option.[52]

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[49] Marcy Gordon, *House Passes Credit Card Bill That Helps Consumers*, HUFFINGTON POST (May 1, 2009), http://www.huffingtonpost.com/2009/04/30/house-passes-credit-card-_n_194126.html. During the financial crisis, the major U.S. banks raised fees further. Eric Dash, *Bank Fees Rise as Lenders Try to Offset Losses*, N.Y. TIMES, July 2, 2009, at B1, *available at* http://www.nytimes.com/2009/07/02/business/02fees.html.

[50] Saskia Scholtes & Francesco Guerrera, *Banks in $38.5bn Windfall from Fees*, FIN. TIMES, Aug. 10, 2009, *available at* http://www.ft.com/cms/s/0/ecca5750-8545-11de-9a64-00144feabdc0.html.

[51] Ron Lieber & Andrew Martin, *The Card Game: Overspending on Debit Cards Is a Boon for Banks*, N.Y. TIMES, Sept. 9, 2009, at A1, *available at* http://www.nytimes.com/2009/09/09/your-money/credit-and-debit-cards/09debit.html.

[52] *See* Credit Card Accountability Responsibility and Disclosure Act of 2009, Pub. L. No. 111-24, § 102(a), 123 Stat. 1734, 1738-39 (2009) [hereinafter Credit CARD Act]. With respect to debit cards, the Board of Governors of the Federal Reserve System amended Regulation E to limit the ability of a financial institution to assess an overdraft fee for paying automated teller machine (ATM) and one-time debit card transactions that overdraw a consumer's account, unless the consumer affirmatively consents, or opts in, to the institution's payment of overdrafts for these transactions. Board of

Before 2010, many banks automatically enrolled consumers in their over-the-limit plan. Under the Act, the credit card company cannot impose an over-the-limit fee for any extension of credit in excess of the previously-authorized credit limit unless the consumer expressly opts into the over-the-limit plan.[53]

For rational consumers with perfect willpower, the default option should not affect the outcome. But the majority of surveyed participants in the Federal Reserve's testing, along with 'consumer advocates, members of Congress, federal and state regulators, and the overwhelming majority of individual consumers who commented' on the proposed regulation urged the Board to set the default as consumers having to opt into the overdraft program rather than having to opt-out (which many banks preferred).[54] Default options have played an important role in diverse settings,[55] including class actions,[56] and will likely be contested in other areas.[57]

Governors of the Federal Reserve System, *New Overdraft Rules for Debit and ATM Cards*, FEDERALRESERVE.GOV (June 22, 2010), http://www.federalreserve.gov/ consumerinfo/wyntk_overdraft.htm.

[53] Credit CARD Act § 102(a), *supra* note 177. This provision, like many other provisions of the Act, took effect in February 2010. *See id.* at § 3, 123 Stat. at 1735. One year after the default option changed, "overlimit fees have virtually disappeared in the credit card industry." Consumer Financial Protection Bureau, CARD Act Factsheet (Feb. 2011), *available at* http://www.consumerfinance.gov/credit-cards/credit-card-act/feb2011-factsheet/ [hereinafter CFPB Factsheet].

[54] *See* Electronic Funds Transfers, 12 C.F.R. Part 205 (2009), *available at* http://edocket.access.gpo.gov/2009/E9-27474.htm (Official staff commentary of the Board of Governors of the Federal Reserve System).

[55] *See, e.g.*, Stefano DellaVigna, *Psychology and Economics: Evidence from the Field*, 47 J. Econ. Literature 315, 322 n.11 (2009) (collecting studies on default options in retirement savings, contractual choice in health-clubs, organ

As a second option, the government can require consumers to choose among the options. The European Commission, for example, challenged Microsoft for bundling or tying its web browser, Internet Explorer, to its dominant client personal computer operating system, Windows.[58] Before the settlement, consumers who used Windows had Microsoft's Internet Explorer as their default web browser.

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donation, and car insurance plan choice); Eric J. Johnson et al., *Defaults, Framing and Privacy: Why Opting In-Opting Out*, 13 Marketing Letters 5 (2003) (consent to receive e-mail marketing); C. Whan Park et al., *Choosing What I Want Versus Rejecting What I Do Not Want: An Application of Decision Framing to Product Option Choice Decisions*, 37 J. Marketing Res. 187 (2000) (car option purchases); Thaler & Sunstein, Nudge, 129-30.

[56] European Consumer Consultative Group, Opinion on Private DAMAGES ACTIONS 4 (2010), *available at*
http://ec.europa.eu/consumers/empowerment/docs/
ECCG_opinion_on_actions_for_damages_18112010.pdf (noting Europe's recent experience that the rate of participation in opt-in procedure for consumer claims was less than one percent, whereas under opt-out regimes, rates are typically very high (97% in the Netherlands and almost 100% in Portugal)).

[57] *See* Julie Brill, Comm'r, Fed. Trade Comm'n, Remarks at the Trans Atlantic Consumer Dialogue 4 (Apr. 27, 2010),
http://www.ftc.gov/speeches/brill/ 100427tacdspeech.pdf (expressing dissatisfaction with the "traditional opt-out, 'notice and choice' model" that "inappropriately places the burden on consumers to read and understand lengthy, complicated privacy policies that almost no one reads, and no one understands").

[58] Press Release, European Comm'n, Antitrust: Commission Welcomes Microsoft's Roll-Out of Web Browser Choice (Mar. 2, 2010),
http://europa.eu/rapid/
pressReleasesAction.do?reference=IP/10/216&format=HTML&aged=0&language=EN.

Although consumers could download other browsers, many did not, a function not attributable necessarily to the superiority of Microsoft's browser but status quo bias.[59] As part of its settlement, Microsoft now provides consumers a Browser Choice Screen. Rather than having one Internet browser as the default, computer users choose the browser they want from the competing web browsers listed on the screen.

Third, the government can educate the consumers using framing under prospect theory and the availability heuristic.[60] To increase the salience of credit card finance charges, for example, the Credit CARD Act of 2009 requires a "Minimum Payment Warning."[61] The credit

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[59] *See* Shane Frederick, *Automated Choice Heuristics*, *in* Heuristics and Biases: The Psychology of Intuitive Judgment 555 (Thomas Gilovich et al. eds., 2002) (summarizing experimental evidence of people preferring current options over other options to a degree that is difficult to justify).

[60] Camerer et al., 1231 ("Since low probabilities are so difficult to represent cognitively, it may help to use graphical devices, metaphors (imagine choosing one ping-pong ball out of a large swimming pool filled with balls), or relative-odds comparisons (winning the lottery is about as likely as being struck by lightning in the next week).").

[61] Credit CARD Act § 201(a). One year later, the Consumer Financial Protection Bureau reports that "70 percent of cardholders [surveyed] have noticed that monthly statements now contain information about the consequences of making only minimum payments" and "48 percent of consumers recall that their bill now tells them how much to pay each month in order to pay off the balance within three years" (CFPB Factsheet). "Of the cardholders who have noticed at least one of the changes in their monthly billing statements, 60 percent say that their monthly statements are easier to read and understand than they were a year ago" and "31 percent of cardholders who recall seeing the new information on their statement report that this information has caused them either to increase the payments they make or to reduce their use of credit." *Id*. However, "32 percent of

card consumer is told in the monthly statement how paying only the minimum amount due will increase the amount of interest she pays and the time to repay the balance. At times, better disclosures entail providing less, but more important, information.[62]

A fourth option to deter behavioral exploitation is to set one option as the default but impose procedural constraints on opting out (Sunstein & Thaler, 2003, 1189). For example, the Credit CARD Act of 2009 sets as the default that 'no credit card may be issued to, or open end consumer credit plan established by or on behalf of,' consumers under the age of twenty-one.[63] To open a credit card account, those under twenty-one must: (i) have the signature of a cosigner, including the parent, legal guardian, spouse, or any other individual over twenty-one years old who has the means to repay (and be jointly liable for) the credit card debts; or (ii) submit financial information showing their independent means of repaying any obligation arising from the proposed extension of credit.

A fifth option is to afford purchasers a cooling-off period. Consumers in an emotional, impulsive state can make unwise decisions that they later regret (McClure et al., 503-07; Ariely, 89-126). US laws and regulations recognize this.[64] From a behavioral

those who carry a balance from month to month say they do not know how much interest they paid on their primary credit card last year." *Id*.

[62] Lacko (finding that the current mortgage cost disclosures failed to convey key mortgage costs to consumers, and the tested disclosure prototype improved the surveyed consumers' understanding, especially for more complex loans).

[63] Credit CARD Act § 301.

[64] *See* Rule Concerning Cooling-Off Period for Sales Made at Homes or at Certain Other Locations, 16 C.F.R. Part 429 (2011); Camerer et al., 1241-44

economics perspective, the effectiveness of cooling off periods is mixed. On the one hand, consumers, upon reflection, can reconsider a purchase, especially one involving high-pressure sale tactics. On the other hand, the more time one has to complete a task, the behavioral economics literature suggests, the greater the likelihood one will procrastinate and not complete that task.[65] For example, a customer's likelihood of redeeming a rebate may be inversely proportional to the rebate period's length.[66] Consumers assume they eventually will seek the discount, but ultimately procrastinate.

A sixth option is a behavioral exploitation tax. When the estimated social value of the firms' behavior is below its private value, the government can tax the firm the difference. The tax seeks to prevent firms from unjustly enriching themselves from their behavioral exploitation. For example, revenues from payday lending that come from APRs above a certain level would be taxed at higher rates. Credit card revenues earned from late fees would be taxed at higher rates than revenue from annual fees.

A seventh option is for the government to take preventive measures to help consumers debias themselves and improve their

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(collecting federal and state cooling-off statutes); *see also* Truth in Lending (Regulation Z), 12 C.F.R. § 226.15 (2011) (Regulation Z cooling-off period).

[65] *See, e.g.*, Dan Ariely & Klaus Wertenbroch, *Procrastination*, *Deadlines*, and *Performance: Self-Control by Precommitment*, 13 PSYCHOL. SCI. 219, 219-24 (2002); Amos Tversky & Eldar Shafir, *Choice Under Conflict: The Dynamics of Deferred Decisions*, 3 PSYCHOL. SCI. 358 (1992).

[66] Matthew A. Edwards, *The Law, Marketing and Behavioral Economics of Consumer Rebates*, 12 STAN. J.L. BUS. & FIN. 362, 391-95 (2007); *see also* Virginia Postrel, *The Gift-Card Economy*, THE ATLANTIC (May 2009), http://www.theatlantic.com/magazine/archive/2009/05/the-gift-card-economy/7372/ (noting the longer the expiration period, the less likely one will redeem gift card).

willpower. Here, the aim is to make consumers less susceptible to behavioral exploitation. The government can increase:

(i) the supply of debiasing methods (e.g., adding courses on financial literacy in high school (emphasizing the behavioral risks and investors' susceptibility to overconfidence bias[67]));

(ii) the demand for debiasing (such as imposing procedural constraints on consumer participation in high risk areas of behavioral exploitation, such as subprime lending, unless the consumer participated in an approved online course that outlines the mortgages' risks);

(iii) the opportunities to debias, such providing consumers timely feedback of their errors and the costs of their poor choices, and strategies to avoid errors (e.g., providing employees who have not enrolled into a retirement plan a monthly reminder of how much money they lost to date in matching funds by not contributing to the 401(k), and an easy method to opt-in); and

(iv) the supply, if the market has not, of commitment devices.

An eighth option is to increase the firms' search costs to identify potential victims. One success of the US Federal Trade Commission was enabling consumers to easily opt-out of all unwanted telephone solicitations.[68] The government, through a similar common listing

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[67] Financial literacy efforts have had mixed results. One study of Harvard undergraduate students and MBA students from Wharton, for example, found a "low absolute level of financial sophistication" with subjects basing choices on normatively irrelevant mutual fund attributes. James J. Choi et al., *Why Does the Law of One Price Fail? An Experiment on Index Mutual Funds* 25 (Yale ICF Working Paper No. 08-14, Mar. 6, 2008), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract id=1125023.

[68] *See, e.g.*, Telemarketing Rules, 15 U.S.C. § 6102 (2006); National Do-Not-Call Registry, 16 C.F.R. § 310.4(b)(1)(iii)(B) (2011). As of September 30, 2008, over 172.5 million telephone numbers were on the do-not-call list. *See also* Do-Not-Call Improvement Act of 2007, Pub. L. No. 110-187, 122 Stat. 633

service, can enable consumers to opt-out of home or mail solicitations (including credit card offerings) or easily block home-shopping cable stations. The government can increase consumers' privacy rights to make it harder for firms to identify especially bounded rational consumers through their purchasing behavior.

Some argue that '[a]dvocating soft paternalism is akin to advocating an increased role of the incumbent government as an agent of persuasion' (Glaeser, 156). Scenario II's policy risks indeed represent a balancing act. Government persuasion increases the risk of authoritarianism; government inaction increases the risks of behavioral exploitation and corporate autocracy. But anti-soft paternalism can itself be paternalistic. If most consumers (like those in the Federal Reserve's testing) prefer having the default as an opt-in (e.g., requiring consumers to opt into the banks' overdraft programs), then assuming that consumers are indeed sovereign, the banks should comply. If banks, however, remain unresponsive to consumer demand and require consumers to opt-out, why can't citizens seek from their elected representatives what they want? It is hard to see why citizens, in the name of libertarianism, must wait for their desired default option from an unresponsive market.

(2008) (telephone numbers placed on the National Do-Not-Call-Registry can remain on it permanently).

4.4 Conclusion

Under any theory of competition with bounded rational consumers with imperfect willpower, one cannot view antitrust and consumer protection as unrelated. Under Scenario II, both consumer protection and antitrust law promote the opportunity for informed consumer choices. Ideally, informed consumers choose among the innovating firms' solutions for their problems. Given the importance of individual autonomy in overall well-being, the government must carefully delineate between behavioral exploitation and behavioral freedom, where firms help consumers address their bounded rationality and willpower. After all, it would be counterproductive if antitrust policy promotes diversity of products and services and the process of search and experimentation, while consumer protection law bans most products except the ones the government believes is suitable. Ideally, antitrust and consumer protection laws deter market failure (e.g., systemic behavioral exploitation) and ensure that consumers, once informed, can choose among products and services.

So Scenario II can provide a unifying theory for consumer protection law and competition law–promote informed consumer choice. Competition law seeks to maximize the solutions available to address consumers' problems or needs, while consumer protection law seeks to prevent systemic behavioral exploitation.

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5 Economic Models of Consumer protection Policies

By Mark Armstrong[*]

5.1 Introduction

The objective of both consumer and competition policy is to deliver well-functioning markets, something which requires both a strong supply side (competition) and a strong demand side (consumers). For many products, vigorous competition is the single best protection for consumers, and only minimal consumer protection (general contract law, forbidding deceptive marketing, the ability to return faulty goods, and so forth) is needed. As Muris (2002), a former Chairman of the FTC, writes: "[R]obust competition is the best single means for protecting consumer interests." However, in some markets some consumers do not always obtain a good deal, even when substantial competition is present, and in such cases additional policies to aid consumers have a role to play.

What prevents markets from delivering good outcomes to consumers? Familiar reasons include abuse of dominance and collusion between suppliers, and these fall broadly within the domain of competition policy. However, there are several other reasons why competition need not work well, such as imperfect information about product attributes, imperfect information about

market prices, supplier costs of advertising, consumers possessing imperfect information about their own needs, or the use of high-pressure and misleading sales tactics. These features fall broadly under the heading of consumer policy.

It seems hard to define precisely "competition policy" versus "consumer policy". Motta (2004, page 30) suggests that competition policy comprises "the set of policies and laws which ensure that competition in the marketplace is not restricted in such a way as to reduce economic welfare." Whereas according to Vickers (2004) one might define consumer policy in terms of the fundamental problems it seeks to prevent, cure, or remedy, which are: (i) duress and undue sales pressure; (ii) information problems pre-purchase; and (iii) undue surprises post-purchase. Nevertheless, many policies (such as those which act to reduce consumer search costs or switching costs, or which reduce industry advertising costs) could be said to fall under both headings.

For better or worse, there has been a lot more economics informing competition policy than consumer policy. However, in recent years economists have shown a greater interest in consumer policy. In part, this is because the economics profession has recently been energized by behavioral economics, a branch of the discipline which takes into account imperfect consumer decision making—consumers can be less rational, more prone to various biases and temptations.

This paper summarizes for a relatively non-technical audience my own recent work on the economics of consumer protection, which has been done in collaboration with John Vickers and Jidong Zhou[1]. For the most part, and unlike the other papers presented at

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[1] For more wide-ranging surveys on the economics of consumer protection, see Vickers (2004) and Armstrong (2008). For an advanced exposition of

this conference, this work models consumers as rational agents, and as such it provides rationales for consumer policy which do not need to use recent models of behavioral consumers. In the following sections I present three theoretical models which illustrate the merits and drawbacks of a number of familiar consumer protection policies. First, preventing firms from setting unduly high prices in markets such as credit cards, energy or international mobile telephony may reduce a consumer's incentive to investigate their mar- ket thoroughly. The resulting "model hazard" may well induce firms to *raise* their prices. As such, a safeguard price cap of this form may be a kind of protection which consumers do not need (although it would be welcomed by firms). Second, policy sometimes aims to prevent firms from rushing their customers' decision making. Sellers may have an incentive to force potential customers to decide then and there whether to buy the product, before the customer has a chance to investigate other— perhaps superior—deals available in the market. When a seller uses this particular sales technique, the result may be a poor match between the consumer and product. In addition, the practice may also lead the seller to set a higher price, which provides another source of consumer harm. While a direct ban on this form of firm behavior may be hard to implement, other common consumer policies such as mandated "cooling off" periods may have the same end result.

Third, in many markets intermediaries act to recommend or otherwise "push" a particular product to consumers. Examples include salesmen giving advice about financial products, doctors giving medical advice, or retailers which make prominent certain products in their shop displays. A common arrangement is for suppliers to pay commission to an intermediary which gives the

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theoretical models which model consumers as having bounded rationality (and firms as profit-maximizing), see Spiegler (2011).

latter a reward in the event of a sale. A natural worry is that the intermediary then promotes the product which comes with the highest commission, rather than the product which is best for the consumer. In the model discussed, the use of per-sale commission payments acts to raise prices in the market, relative to a market in which consumers pay the intermediary directly for advice, or where uniformed consumers shop randomly.

5.2   Consumer Protection and Moral Hazard

If consumers are over-protected in their market transactions, "moral hazard" may ensue and they may not pay sufficient attention to making the best choices. As is well understood, if someone is insured, she will take less care protecting her possessions. An efficient insurance contract will trade off the benefits of insurance to risk-averse consumers with the need to ensure that the consumer takes adequate care. Likewise, in markets with complex products or with many suppliers, the consumer needs to invest effort to choose what product is the best for her. For instance, if policy ensures the consumer will face no bad surprises in the small print (of a contract with a bank, for instance), she may be less likely to read the contract at all. As Posner (1969, page 67) put it: "Just as the cheapest way to reduce the incidence of certain crimes, such as car theft, is by inducing potential victims to take simple precautions (locking car doors), so possibly the incidence of certain frauds could be reduced at least cost to society by insisting that consumers exercise a modicum of care in purchasing, rather than by placing restrictions on sellers' marketing methods." It seems plausible that consumers learn market skills over time and, moreover, these market skills are often not specific to one market, but spill over to many markets. For instance, the victim of a scam, or an unexpectedly high credit card penalty charge, will usually be more vigilant in future. It does not take many bad experiences with scams to learn the maxim that "if it seems too good to be true, it probably is." Unless a consumer is

particularly vulnerable or the product is particularly harmful, it is probably best to let consumers develop their own imperfect rules of thumb to defend themselves in the market. Some consumers will no doubt harm themselves by inexpertly cooking a chicken (say, by not reading the small print of the "cooking instructions"), but the solution is not to remove raw chicken from the market. The general point is that excessive consumer protection may be inimical to the development of market skills in consumers.[2]

To take a specific example, a consumer policy which acts directly to limit price dispersion in such a market could have perverse effects. If price dispersion is reduced, this reduces the incentive for a consumer to become informed, and so is likely to reduce the number of informed consumers. The net result of reduced consumer search could well be that average prices in the market rise rather than fall, thus harming consumers[2].

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[2] However, just because there is moral hazard does not mean insurance should not be offered at all. One might balk at permitting sales to the general public of Japanese pufferfish, which is fatal if prepared even slightly incorrectly. A related issue is the widespread use of "use-by" dates on food. Many consumers never use food beyond its use-by date. Given that the use-by date is chosen so that the foodstuff is almost certain to be edible regardless of local conditions (e.g., how often the consumer's fridge is opened), it is plausible that inefficiency arises from this policy. If use-by dates were less widespread (say, in the days when many consumers purchased meat from a butcher rather than a supermarket), consumers would likely have better skills in detecting whether food is edible (e.g., by smell). This is another instance of how arguably excessive protection leads consumers to possess too few market skills.

Armstrong, Vickers and Zhou (2009) provide formal modelling of this idea.[3] Our market model was an extension of Burdett and Judd (1983), who studied a model where all consumers are rational, and decide whether or not to become better informed about the deals available in the market on the basis of the expected gains from doing so. Armstrong *et al.* assumed the market had a large number of identical firms which supply a homogeneous product to a large number of consumers. For simplicity, the firms' cost of supply is normalized to zero. Consumers are risk-neutral, and all have maximum willingness-to-pay for a unit of the product equal to *v.* Consumers are endogenously divided into two groups according to their choice of search technology: the *better informed* and the *less informed.* The former observe more prices on average than the latter, but incur a one-olf search cost when they choose to become better informed.

In such a market, firms choose their prices randomly and there is price dispersion.[4] In such a market, a consumer who sees more prices will, on average, find a lower price than a consumer observing fewer prices. Suppose that in market equilibrium an informed consumer's

[3] Much earlier, Fershtman and Fishman (1994) examined the impact of a price cap and showed that the price cap could act to raise expected prices.

[4] More precisely, this requires that there be some of each kind of consumer and that less informed consumers sometimes see just a single price. To understand why firms cannot set predictable prices, suppose to the contrary that each of a given firm's rivals are known to set the price *p*. Then if *p* is above marginal cost, the firm can make more profit by slightly undercutting this price, and so selling to all consumers who see its price. If the price *p* is equal to marginal cost, then the firm can make positive profit by setting its price above cost and selling to those consumers who happen to see only its price.

expected price is denoted P_I, a less-informed consumer's expected price is $P_U > P_I$, and the fraction of consumers who choose to become informed is λ. Suppose a consumer can choose to use the superior search technology by incurring a (possibly psychological) cost $s \geq 0$. In general, consumers may differ in their cost of acquiring information, and let $s(\lambda)$ be the search cost of the marginal consumer when λ consumers choose to be informed. (The function $s(\cdot)$ is necessarily weakly increasing.) In general, the two expected prices P_I and P_U are decreasing functions of λ (as illustrated for a related model in section 3.4 below on Figure 1). For a consumer with search cost s to be willing to become more informed, we require that $s \leq P_U - P_I$ so that it is worthwhile to spend s to discover more prices. In equilibrium, consumers will choose to become informed until the final consumer is indifferent. Thus, the fraction λ of consumers who become well informed in equilibrium satisfies

$$P_U\,(\lambda) - P_I\,(\lambda) = s(\lambda)\,.$$

To illustrate this discussion, consider an example where the less-informed consumers see just one price, while the more-informed consumers see two prices. If all consumers have search cost $s = v/20$, one can show that approximately 95% of consumers choose to become informed. All consumers make the expected payment (including search costs for those consumers who choose to become informed) of $P_U = P_I + s \approx v/10$.

Consider a policy which aims to protect less informed consumers against unduly high prices. (For instance, a usury law might take this form in a particular credit market, or consumer advocates might suggest such regulation in the energy or telecommunications sectors if some consumers are found to be paying high prices.) That is to say, policy constrains firms to set prices no higher than $\bar{p}$, where $\bar{p} < v$ is the price cap. The imposition of this price cap has pros and cons. If $P_I\,(\lambda)$ and $P_U\,(\lambda)$ are expected

prices in the absence of regulation, then Armstrong *et al.* show that the expected prices with price cap $\bar{p}$ become respectively

$$\frac{\bar{p}}{v} P_U(\lambda) \text{ and } \frac{\bar{p}}{v} P_I(\lambda)$$

Thus, for given λ, the intervention benefits both the informed and the uninformed consumers since the prices they pay are proportional to $\bar{p}$. But the incentive to become informed, i.e., the gap between the two expected prices, is also proportional to $\bar{p}$ for given λ, and so the policy induces the number of informed consumers to fall.

Consider imposing the price cap $\bar{p} = v/2$ in the above numerical example, so that maximum allowed prices are halved. In this case the fraction of informed consumers falls to $\lambda \approx 0.74$, so that the number of uninformed consumers rises about 5-fold as a result of the policy. Each consumer pays $(\bar{p}/v) P_U$, which is now increased by about 70% to $0.17 \times v$. Industry profit more than *doubles* as a result of the imposition of the price cap. Thus, the "perverse" effect of this particular consumer policy is substantial in this example.

Beyond this numerical example, when does imposing a price cap harm consumers? In the special case where all consumers have the same search cost *s*, provided the price cap is not so tight that all consumers cease searching, the imposition of a price cap is sure to make all consumers pay higher expected prices. Thus, the numerical example is not a fluke, and is rather a robust phenomenon. Although the direct effect of a price cap is to reduce prices, the indirect effect of reduced search lessens each firm's demand elasticity so much that prices on average go up. This formalises a claim sometimes made informally, which is that imposing price controls on an oligopoly market could raise equilibrium prices. One intuition for such a claim is that a price cap acts as a focal point for tacit collusion. For instance, Knittel and Stango (2003) examine the credit card market in the United States in the period 1979-89. There, usury laws in many states

put a ceiling (often of 18%) on the interest rates which credit cards could levy. Knittel and Stango (2003, Table 3) show how, for much of this period, average interest rates were higher in those states with a ceiling than in those states without any controls. They interpret this observation as evidence that price caps can encourage tacit collusion via the policy-induced focal point. The search-theoretic model in Armstrong *et al*, however, provides another way to interpret this data. In our model, pricing is entirely non-cooperative, and tacit collusion plays no role. Rather, price controls soften competition by blunting consumers' incentives to search for good deals.

If consumers differ in their costs of acquiring market information, imposing a price cap causes fewer consumers to cease becoming informed. If the search cost curve $s(\lambda)$ is sufficiently steep, a price cap will then benefit consumers. Consider for instance the limiting case where an *exogenous* fraction of consumers λ are informed while the remaining consumers are uninformed. This situation could be interpreted as there being a fraction λ of consumers have zero search cost and the remainder have an infinite search cost; or we could take a behavioural interpretation, that a fraction $1 - \lambda$ of consumers are "naive" and mistakenly believe there is no benefit to shopping around. (This model is essentially Varian's (1980) model of sales.) When λ is constant, the imposition of a price cap is unambiguously beneficial for both groups of consumers (since their expected prices fall), and harms industry profits. Thus, we can conclude that the impact of a price cap on consumer welfare depends in this model on the fine details of the distribution of search costs in the population of consumers.

It would be useful in future work to extend this stylized model to richer settings. For instance, it is not particularly common to impose caps on headline prices in oligopoly markets. Rather, price controls might be applied to "small print" charges in a contract, or minimum quality standards might be imposed on aspects of product quality. It would be worthwhile to extend this model so that consumers must expend effort to understand these less salient

aspects of a firm's offer. For instance, could the introduction of a minimum quality standard sometimes lead to lower average quality in the market?

Armstrong *et al.* also consider an alternative setting in which consumers have the ability to "opt out" of intrusive marketing. A popular consumer protection policy is to introduce a "do not call" list, and when someone signs up to such a list marketers are not permitted to make cold-calls to this person. Again, this policy sounds beneficial to consumers, as this form of marketing can be irritating. However, to the extent that this form of marketing allows recipients to become more informed about deals available in the market (albeit at the "search cost" of having to endure the marketing efforts), such a policy again has pros and cons. Prices are pushed downwards when a greater proportion of consumers are well informed, and so when many consumers choose to opt out of marketing this impacts negatively on prices. The net result can be that consumers are harmed when the "do not call" list is introduced. Indeed, firms may welcome this particular consumer policy, as it relaxes price competition in their markets. (For the same reason, historically firms have often supported measures which restrict price advertising.)

5.3   Rushed Decision Making

One controversial sales method forces the consumer to decide *quickly* whether to buy. Methods of encouraging a quick decision include a seller refusing to sell to a customer unless she buys immediately, or in less extreme cases the seller tells the potential customer that she will pay a higher price if she decides to purchase at a later date. In his account of sales practices, Cialdini (2001, page 208) reports:

> Customers are often told that unless they make an immediate decision to buy, they will have to purchase the item at a higher price later or they will be unable to purchase it at all. A prospective health-club member or

automobile buyer might learn that the deal offered by the salesperson is good for that one time only; should the customer leave the premises the deal is off. One large child-portrait photography company urges parents to buy as many poses and copies as they can afford because "stocking limitations force us to burn the unsold pictures of your children within 24 hours". A door-to-door magazine solicitor might say that salespeople are in the customer's area for just a day; after that, they, and the customer's chance to buy their magazine package, will be long gone. A home vacuum cleaner operation I infiltrated instructed its sales trainees to claim that, "I have so many other people to see that I have the time to visit a family only once. It's company policy that even if you decide later that you want this machine, I can't come back and sell it to you."

A related example is the practice in some academic disciplines for journals to make exploding offers to authors, requiring them to commit to publish with them before they find out whether other, perhaps better, journals are willing to publish their article. Because of the inefficient decision-making the use of exploding offers induces, recently a number of law journals have agreed to cease their practice of making exploding offers to authors.[5]

A less extreme sales tactic is to offer a discount for immediate sale. A home improvement company might offer its potential customers a regular price for the agreed service, together with a discounted price if the customer agrees immediately. Similarly, a prospective tenant might be offered an apartment for $900 per month but to whom the landlord offers $850 if she agrees immediately, or a

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[5] See the letter published online at www.harvardlawreview.org/Joint-Letter.pdf.

car dealer tries to close a deal who offers a further $500 off the price if the buyer accepts now, so (as he claims) he can then make his sales quota for that month.

Inducements to make a quick decision can limit a consumer's ability to make a well-informed decision, which in turn can harm market performance. Public policy has attempted to address this problem. For instance, the *Unfair Commercial Practices Directive*, adopted in 2005 across the European Union, prohibits in all circumstances "Falsely stating that a product will only be available for a very limited time, or that it will only be available on particular terms for a very limited time, in order to elicit an immediate decision and deprive consumers of sufficient opportunity or time to make an informed choice." However, in practice the enforcement of such laws is often difficult. A more efficient method to tackle the issue may sometimes involve less direct means. For example, exploding offers could in essence be prohibited by mandating a "cooling off period", so that consumers have the right to return a product within some specified time after agreeing to purchase. (They could then return a product if they subsequently find a preferred option.) Many jurisdictions impose cooling off periods for some products, especially those sold in the home.

Armstrong and Zhou (2011b) provide a formal model to examine a seller's incentive to encourage rushed decisions, by discriminating against those customers who wish to buy its products later. It is natural to study this issue in the context of sequential search, where consumers search for a suitable product and/or for a low price.[6] Of course, the sales tactic only works in those situations

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[6] As mentioned in the introduction, we used a model with rational consumers. There are many other methods to induce sales which rely on more psychological factors. These include attempts to make the prospective buyer like the seller (e.g., by claiming similar interests, family or social

where sellers can distinguish new visitors from people who have returned to buy only after the initial sales pitch. In the majority of markets this is not possible. (A supermarket, for instance, keeps no track of a consumer's entry and exit from the store.) Nevertheless, in many markets such discrimination is feasible. A sales assistant may tell from a potential customer's questions or demeanor whether she has paid a previous visit or not, or may simply recognize her face. In online markets, a retailer using tracking software may be able to tell if a visitor using the same computer has visited the site before. Sometimes—as with job offers, automobile sales, tailored financial products, medical insurance, doorstep sales, or home improvements—a consumer needs to interact with a seller to discuss specific requirements, and this process reveals the consumer's identity.

In such situations, there are two reasons why a firm might wish to discriminate against those consumers who buy later. First, there is a *strategic* reason, which is to deter a potential consumer from going on to investigate rival offers. If a consumer cannot return to a seller once she leaves, this increases the opportunity cost of onward search, as the consumer then has fewer options remaining relative to the situation in which return is costless. Second, the observation that a consumer has come back to a seller after sampling other options reveals relevant *information* about a consumer's tastes or the prices she has been offered elsewhere, and this may provide a profitable basis for price discrimination. A seller may charge a higher price to those consumers who have already investigated other sellers, because their decision to return indicates they are unsatisfied with

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background) or attempts to make the buyer feel obligated to the seller (e.g., by means of a "free gift"). Cialdini describes these and other sales techniques in more detail. However, it is often unclear what role consumer policy has to play in combatting these kinds of sales tactics.

rival products. The former motive is most relevant when firms announce their buy-later policies in advance (and stick to their policies), while the latter is more important when firms have less commitment power.

A simple framework to think about these issues is the following. A single seller supplies a product which yields gross utility u to a consumer, where u varies across consumers such that the fraction of consumers with $u \geq p$ is described by the demand function $Q(p)$. The key twist to the model is that the consumer's outside option (her utility received if she does not buy the seller's product), denoted by v, is a random variable which the consumer does not know until she leaves the seller. (The parameter v might represent the uncertain value of other deals available from alternative sellers, for instance.) If the seller chooses price p, the consumer's net surplus from the seller is $u-p$. If the seller allows the consumer to investigate her outside option before deciding whether to buy, the consumer will always wait to discover the outside option (in case v happens to be large), and then return to buy whenever $u - p \geq v$. With this method of selling, the probability that the consumer buys its product is the expected value of demand, denoted $\mathbb{E}Q(p + v)$ (where the expectation takes place with respect to the outside option v). If instead the seller forced the consumer to decide to buy *before* she can find out v, with price p the consumer with gross utility u will accept this exploding offer whenever $u-p \geq \mathbb{E}v$, where $\mathbb{E}v$ is the expected value of the outside option. (Here, we assume the consumer is risk-neutral.) Thus, the probability of a sale with this high-pressure sales technique is $Q(p + \mathbb{E}v)$. According to Jensen's Inequality, $\mathbb{E}Q(p + v)$ is smaller than $Q(p + \mathbb{E}v)$ if the demand curve $Q(\cdot)$ is concave over the relevant range, and it is greater if the demand curve is convex.

Thus, in this simple setting, the incentive to make an exploding offer depends on the shape of the seller's demand curve: with a

concave demand curve the seller has an incentive to use this form of high-pressure selling.[7] The basic trade-off involved is as follows. When the seller makes an exploding offer, this makes the consumer more likely to accept the offer immediately if she likes it, but it prevents her, in the event that she has only a moderate payoff from the offer, from coming back if she discovers her outside options is even worse. When the demand curve is concave, the first effect dominates. For a given price p, the consumer is harmed when the seller makes an exploding offer, since she obtains her ideal outcome when free recall is allowed while an exploding offer leads to an inefficient outcome for many realizations of (u,v). In addition, the use of an exploding offer may induce the seller to alter its chosen price; it will raise the price when an exploding offer is made if the demand function $Q(p + \mathbb{E}v)$ is less elastic than the demand function $\mathbb{E}Q(p + v)$. In general, this comparison is ambiguous, and depends on the concavity or convexity of the *slope* of demand. However, the typical pattern seems to be that the seller raises its price when it makes an exploding offer. In such cases, the use of exploding offers has a double disadvantage: the tactic induces a poor match between consumers and products and it raises the price consumer must pay.

While firms have an incentive to make an exploding offer in the relatively restrictive case where the demand curve is concave, they

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[7] This result continues to hold even if the seller cannot commit not to serve a returning customer, provided some consumers are "credulous" and believe the sales patter. In reality, a doorstep seller, say, may be only too pleased to return to sell if a customer calls to say she does in fact want the item. In such cases, the exploding offer is not a credible sales strategy. However, if some consumers do anyway believe the salesman's claim that he is "in the area that day only" and the purchase decision must be immediate, the salesman has an incentive to claim to make an exploding in order to influence the decision of these credulous consumers. (The sophisticated consumers are not taken in or otherwise affected by the salesman's claims.)

have an incentive to offer a buy-now discount much more widely. Indeed, Armstrong and Zhou (2011b) show that a firm has such an incentive under the mild condition that the demand curve is log-concave. Although the sales tactic is framed as a discount (e.g., "buy my product now and you'll save 10% off my usual price"), it turns out that when a firm engages in this form of price discrimination *both* its prices often rise relative to a situation where the firm offers a uniform price to its customers. Again, in such cases the sales tactic induces a poor product match and higher prices.

An alternative method of discriminating against prospective buyers who leave and then return is to implement an *unannounced* price hike. When searching for air-tickets online, a consumer may find a quote on one website, go on to investigate a rival seller, only to return to the original website to find the price has mysteriously risen. Or a consulting firm may be approached by a company wanting antitrust advice and a fee is chosen, but if the company returns some weeks later after trying rival consultants (who are too expensive, or perhaps turn out to be conflicted), it may find the fee has increased. To analyze such cases, we relaxed the assumption that firms commit to their buy-later price when consumers make their first visit. Then it is often the case that the seller does wish to raise its initial price when a consumer comes back to buy later.

For instance, suppose a consumer incurs a (possibly small) intrinsic cost $r > 0$ in order to return to the seller after investigating the outside option. If the seller initially offers the price p and the consumer anticipates that this price will remain valid if she comes back to buy later, then any consumer who buys later must have preferences such that $u - p - r \geq v$. (If she is willing to come back, then her surplus at the seller, $u - p$, must exceed the outside option v by enough to compensate her cost of returning.) Therefore, the seller can raise its price from p to $p + r$ and not induce any of these returning consumers to be driven back to the outside option. In fact, a similar argument shows that there can then be *no* buy-later price which is accurately anticipated by consumers. It follows that the only

credible outcome when firms have no commitment power at all is that the seller makes an exploding offer and the return market collapses. An inability to commit to its buy-later policy will therefore amplify a firm's incentive to discriminate against those consumers who buy later.

5.4   Commission-based Selling

As discussed in the two previous sections, consumers are often initially imperfectly informed about the deals available, and must invest effort to find out where to obtain a reasonable product at a reasonable price. A consumer may sift sequentially through the options available until she finds one which is satisfactory (rather than the *best* available in the market). In such a market, a seller has an advantage if it is encountered early on in a consumer's search process. In a few situations it makes sense to suppose that consumers search randomly through available options, in which case no firm is privileged relative to its rivals. In many circumstances, however, consumers consider options in a non-random manner, and choose first to investigate those sellers or products which have high brand recognition, which are known to have a low price, which the consumer has purchased previously, which are recommended by an intermediary, or which are prominently displayed within a retail environment.

Armstrong and Zhou (2011a, section 1.1) consider a setting where firms market their products by offering financial inducements to intermediaries. The formal model assumed that sellers could not observe—or contract on—the products the intermediary chooses to promote, and to give an incentive to promote its product a seller pays a per-sale commission fee to the intermediary. This sales method is often used in one-to-one sales environments such as for financial services. In this model, the intermediary chooses to "recommend" the product which pays the highest commission, and uninformed consumers are steered towards the more expensive

product. This could be construed as a form of mis-selling. Because sellers compete to become prominent by offering high commissions, this pushes up a seller's marginal cost of supply, and so equilibrium retail prices are high relative to a market with random consumer search.

We studied a variant of Varian (1980) in which his framework is modified to allow a single intermediary (or "salesman" for brevity in the following) to steer the uninformed portion of consumers towards a particular product. In more detail, a number of symmetric sellers costlessly supply a homogenous product (life insurance, say) which all consumers value at v. We assume that this product *must* be sold via the salesman. An exogenous fraction λ of well-informed consumers costlessly observe the two retail prices, and buy from the cheapest supplier. The remaining fraction $1 - \lambda$ of consumers will only consider a single product and buy that product if its price is below v. (These consumers may have very high search costs, or are susceptible to the marketing efforts of the salesman and follow his recommendation.) Hence, the salesman has the ability to steer these $1 - \lambda$ uninformed (or "credulous") consumers to buy any particular product. Suppose that a firm chooses its retail price, p, and commission rate, b, simultaneously (and simultaneously with its rivals). This firm pays commission b to the salesman every time a sale of its product is made. We assume that the salesman cannot levy charges on consumers, and so aims to maximize his income from commission payments.

In this setting it is clear that the salesman will choose to promote the high-commission product, regardless of how the two retail prices compare (as long as prices do not exceed v). This is because the salesman's marketing effort cannot influence the choice of the informed consumers at all, but fully determines the choice made by the uninformed consumers. Hence, the salesman will direct the uninformed consumers towards the product which pays a higher commission rate. It is also clear, as in the work described in section 2, that sellers choose their retail prices and commission payments

randomly. In the equilibrium, there is an increasing relationship between a firm's choice of b and p. This is because a higher price p makes it more worthwhile for a seller to pay the salesman to steer the uninformed consumers towards its product. Moreover, this incentive also increases with the proportion of uninformed consumers. Since high commissions are associated with high retail prices, the salesman promotes the highly priced product due to the high commission he then receives. This is a form of mis-selling, since uninformed (or credulous) consumers are directed towards the more expensive product.

There are two natural benchmarks with which to compare the outcome when commissions are paid. The first benchmark is when there is no salesman, and the uninformed consumers buy randomly from one of the firms. In this case the framework reduces exactly to Varian (1980)'s model. We show that retail prices are higher when firms pay commissions to a salesman to promote their product relative to the situation with random search. This is due to the competition between firms to offer high sales commissions to have their product promoted, which artificially inflates the marginal cost of selling a product. However, whether firms enjoy greater profits when they pay commission is ambiguous. In the case of two suppliers, without commission payments each firm makes expected profit $\frac{1}{2}(1-\lambda)v$, while in the regime with commissions a firm makes expected profit $\lambda(1-\lambda)v$. Thus, more profit is obtained with commission payments when $\lambda > \frac{1}{2}$, so that the uninformed consumers are in the minority. But when the uninformed consumers are in the majority, the two firms end up playing a prisoner's dilemma due to the fierce competition to become prominent.
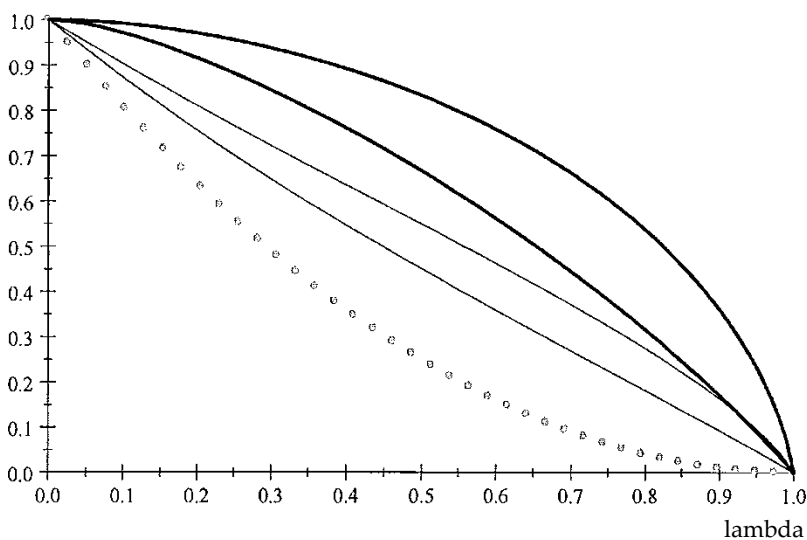
Figure 1: *Expected prices and commissions in three regimes*

Figure 1 plots the expected prices paid in these two regimes as a function of λ, the proportion of informed consumers. (Here, $v = 1$.) The two bold lines depict expected prices when commissions are paid, where the upper of these lines is the expected price paid by the uninformed consumers and the lower line is the expected price paid by the informed consumers. The dotted line represents the expected commission paid to the salesman. The two feint lines depict the corresponding prices in Varian's model where no commissions are paid and search is random. The two regimes have the same outcome for consumers when $\lambda = 0$ (when the monopoly price $p = v$ is chosen for sure) and when $\lambda = 1$ (when the competitive price $p = 0$ is chosen). However, for intermediate values of λ, the prices paid in the commission regime are substantially higher than when no commissions are paid. Indeed, in most cases an uninformed consumer in the no-salesman regime pays a lower price than even the informed consumers do in the commission regime.

The second benchmark with which to compare the outcome with commission payments is to suppose that the salesman is necessary for consumers to buy the product (unlike the benchmark with

random search), but now the salesman is paid by consumers rather than by sellers.[8] Suppose that when the salesman is paid by consumers, say in the form of a lumpsum consultation fee, he directs the uninformed consumers to the cheaper product. (This might be because, all else equal, he has a small intrinsic preference for recommending the appropriate product to consumers.) In this case, all consumers buy the cheaper product and in Bertrand fashion the sellers are forced to set retail prices equal to cost. Thus, suppliers are harmed when this policy is introduced, relative to both the commission regime and the random search regime. The outcome for consumers depends on how much they have to pay the salesman for his advice. One assumption is that the consultation fee is set equal to the revenue the salesman received under the commission regime, so that the salesman is indifferent between the two regimes. (Perhaps the advice industry needs to be supportive of a policy shift from a commission-based model to a consumer-fee model.) In this case, the expected total price—the price for the product plus the fee to the salesman—paid by any consumer is simply the dotted line on Figure 1. From the figure it follows that all consumers are better off when they pay the salesman compared to when suppliers pay the salesman. In fact, they are also better off when they pay the salesman than when they search randomly (where prices are the feint lines on the figure).

This section has described a model where firms attempt to influence a salesman's marketing efforts by means of per-sale commission payments. The salesman gives prominence to the

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[8] The UK regulator, the Financial Services Authority, published rules in March 2010 concerning how financial advice can be remunerated. The rules state that an advisor will not be able to accept commission for recommending products, and the consumer fee for advice must be agreed between the consumer and the advisor, rather than between the seller and the advisor.

product which pays the highest commission, and in equilibrium this entails steering uninformed consumers towards the more expensive product. Competition between sellers to set the highest commission means that the marginal cost of supply is inflated and equilibrium retail prices are high. Therefore, the outcome for consumers, both informed and uninformed, is poor: worse than the situation without commission payments where the uninformed shop randomly, and far worse than the situation in which consumers pay directly for advice. This model therefore gives some support to consumer policies which restrict the use of commission payments as a marketing tactic.[9]

This discussion considered an environment in which sellers could not observe the marketing efforts of the intermediary, and so induced effort from the intermediary with the use of per-sale commissions. A by-product of this arrangement is that a seller's marginal cost of supply is artificially inflated, and consumers are harmed by high retail prices which result. In other environments, sellers can observe the intermediary's marketing strategy, and so there is no need to give incentives *ex post* for the intermediary to promote the product. (For instance, a publisher can observe whether a bookstore does in fact promote its book as the "book of the month".) As such, it is then often more natural to suppose that payments for promotion are lump-sum rather than per-sale, with the

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[9] Inderst and Ottaviani (2011) present an alternative model of potential mis-selling, where the salesman advises consumers about the suitability of a product rather than its price. There, no consumers are informed, and must rely on the salesman to advise them about which product to buy. The salesman has only a noisy signal about the suitability of a product, and he has an intrinsic preference to recommend the suitable product to a consumer. However, this preference can be overturned if sellers set high enough commissions.

result that retail prices are not necessarily adversely affected.[10] Indeed, as discussed in Armstrong and Zhou (2011a, section 1.2), lump-sum payments for product promotion may actually be welfare-enhancing, as sellers with better (or cheaper) products may well be prepared to pay the most for being promoted in this way, and so consumer will end up being guided in the appropriate direction.

5.5   Concluding Comments

I have presented three theoretical models which aim to shed light on the pros and cons of a number of common consumer protection policies. We saw that some support could be given to policies which seek to prevent rushed decision making and which seek to control the use of per-sale commission payments as a method of giving incentives to sales intermediaries. In both of these cases, it was not clear from the models whether "more competition" would be another way to solve these problems. We also saw how an apparently pro-consumer policy which limits maximum prices in the market might backfire, and lead firms to raise their average prices.

These policies fall under the headings of combatting either (i) sales pressure or (ii) information problems before purchase (using the taxonomy in Vickers (2004)). In future work it will important to

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[10] One UK bookstore was alleged in 2006 to charge publishers £50,000 a week to guarantee a book "a prominent position in the store's 542 high street shops and inclusion in catalogues and other advertising". A trade body suggested that 70 per cent of publisher promotional budgets were spent on so-called "below-the-line" schemes operated by bookshops rather than more traditional advertising. For more details, see the article in the (UK) Sunday Times by Robert Winnett and Holly Watt titled "£50,000 to get a book on recommended list", 28 May 2006.

understand better the problems which emerge with (iii) surprises after purchase. For instance, in what circumstances should regulation control terms in the "small print" of consumer contracts, and if so, how should it do so? For example, many consumers are known to overlook contractual terms such as unauthorized overdraft charges levied by banks, or call charges levied by mobile telephone networks when a subscriber makes more calls than their allowance. Is there a role for consumer policy to control these charges, and if so, at what level? To what extent is the moral hazard problem analyzed in section 2 likely to re-emerge with small print regulation?

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6 What role does Economics have to play in Contingent Charges Regulations?

By Matthew Bennett[*]

6.1 Introduction and summary

Contingent charges are charges which are imposed only on the occurrence or non-occurrence of a particular event[1]. For example if a customer goes into unauthorised overdraft, the bank charges the customers a fee. If the customer does not go into the unauthorised overdraft the customers avoids the fee. Recently there have been several high profile cases under UK consumer law within this area. Whilst economics has played, and increasing plays, a key role in competition policy, the role it plays in consumer policy has been limited and arguably is taking longer to establish. However this paper argues that the law and economics of contingent charges are much more closely aligned than case law may suppose. Indeed this paper argues that the legal test under the Unfair Terms in Consumer

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[*] Matthew Bennett works for the Office of Fair Trading (OFT) in the UK, and would like to thank the many colleagues with whom he has discussed the ideas in this paper, in particular Paul Gurowich for his excellent comments. Nevertheless, the opinions within the paper are his alone and not those of the OFT.

[1] For the purposes of the remainder of this paper we will use the case of a charge which is imposed on the occurrence of a particular event. The same reasoning, however, applies in the event of a charge imposed on the non-occurrence of a particular event.

Contracts Regulation (UTCCRs) is closely aligned to an economic test of fairness, and in assessing such terms the legal test requires the type of economic analysis that is routinely done within Competition Law.

English common law has always sought to allow contracts to be made simply and without formalities. It "implies" terms where issues arise between parties that their agreements do not cover.[2] But it will not do this where there is any evidence of valid agreement on the point at issue, such as a written contract, and has never required that written terms are individually negotiated in order to be valid. Historically, therefore, firms were able to develop the practice of selling goods and services on the basis of pre-formulated contracts under which consumers agreed to waive rights that they might otherwise have enjoyed – for instance rights to redress against the firm. Initially there were limited legal constraints on this practice, but UK legislation during the 1960s and 70s focussed on correcting problems relating to exclusion and limitation of liability clauses resulting in the Unfair Contract Terms Act 1977.

More recently however, firms have turned towards mass produced standard term contracts. Firms would provide a standard contract for all customers without the ability for those customers individually to negotiate its terms. In 1993 the EEC adopted Directive 93/13 on unfair terms for purposes including that of protecting the consumer against the abuse of power by the trader, in particular against one-sided standard form contracts and the unfair exclusion of essential rights in contracts. The directive was implemented in the UK in 1994, via the Unfair Terms in Consumer

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[2] For example The Sale of Goods Act 1979 provides that if goods are sold by reference to a description then the goods must comply with that description, likewise consumer law implies that the goods must be of 'satisfactory quality'.

Contract Regulations (UTCCRs), which were reissued in revised form in 1999.

This paper considers they use of contingent charges and their possible impacts, pointing out that contingent charges may be an efficient way of differentiating between customers and increasing the reach of products. However the paper argues that even if the charges are imposed for reasons of efficiency they may also adversely impact on consumers and competition. In particular they may soften competition by obfuscating prices and reducing transparency for consumers.

This raises the question of how to differentiate between charges that are efficient and charges that may harm consumers? The second part of the paper proposes four economic principles in order to determine when a consumer authority may want to intervene. In particular the four principles look at whether (i) consumers constrain the firm through changing their purchasing decisions in the primary market, (ii) consumers constrain the firm through changing their behaviour in the secondary market. (iii) there is no significant harm (iv) there are consumer benefits that outweigh harm.

The third section of the paper looks at whether the economic principles set out above ties in with the UTCCR law on contingent charges. The paper argues that the UTCCRs are actually much closer to the economic principles set out than may be thought. However how close the principles are with the law depends upon the UTCCRs are interpreted by the courts. In this context the paper argues that the Supreme Court finding in Banks may be seen as a step backwards. In particular if the Supreme Court it was interpreted widely it might suggest that contingent charges cannot generally be challenged under the UTCCRs, even if the charge is not part of the core service. Such an interpretation would create a gap between the economic case for intervention and the use of the UTCCRs as a tool to achieve this. As such the paper outlines a number of suggestions for changing the UTCCR legislation in order to realign the law and economics of contingent charges.

6.2 The economics of contingent charge legislation

One of the key tenets of contract law is the freedom of contracts. That is the right for individuals and firms to form contracts without government restrictions. 'Freedom of contracts', along with 'Caveat Emptor', are ideas based strongly on a laissez faire view of society, where any gains from exploiting customers in the market will be relatively short lived. The market will discipline firms who abuse their customers by causing those customers to divert their demand away from dishonest firms towards more honest firms.

Such a view implicitly assumes that markets work well because there are efficient interactions on both the demand (consumer) side and the supply (firm) side. On the demand side, if consumers make well-informed and well-reasoned decisions which reward those firms who best satisfy their needs this will drive competition. On the supply side, it assumes that vigorous competition provides firms with incentives to deliver what consumers want as efficiently and innovatively as possible. When both of these sides function well, a virtuous circle is created between consumers and competition and the market works well to discipline firms.[3]

However, while active and rational consumers and vigorous competition work together in tandem to deliver consumer benefits, the failure of either side of the virtuous circle can harm the ability for markets to deliver beneficial outcomes. For example if competition between firms is diminished because the firms sign anti-competitive agreements, then consumers will pay more for what they want, and society will lose due to inefficient allocations of effort. Whilst

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[3] For a further discussion of the 'virtuous circle', see Bennett, M., J. Fingleton, A. Fletcher, L. Hurley & D. Ruck, 2010. "What Does Behavioral Economics Mean for Competition Policy?," CPI Journal, Competition Policy International, vol. 6.

traditionally the supply side has formed the focus of economics, more recent developments have also focused on the demand side as being crucial for the ability for the market to deliver good outcomes. For example if consumers are less engaged in the buying process, then firms may find it harder to win market share by providing what consumers most want. This may, in turn, reduce the incentive of firms to work towards that end, with competition being weakened, and less consumer and societal benefit being delivered by the market. The implication is that competition policy aimed simply at increasing the intensity of competition between firms may not be sufficient to secure efficient outcomes.

In order for consumers to drive competition and hence the virtuous circle in the manner described above, consumers need to be able to *access* information about the various offers available in the market, *assess* these offers in a well-reasoned way, and *act* on this information and assessment by purchasing the good or service that offers them the best value.

However consumers' ability to access, assess and act on the best offers cannot be taken for granted. Economists have long recognised that issues such as search or switching costs can generate barriers to accessing and assessing competitive offers, and hence create barriers to the virtuous circle described above.[4] However more recently the behavioural strand of economic literature has given further reasons to question whether the market will always deliver beneficial outcomes. In particular if consumers are not the rational homo-

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[4] For example, the key role of search costs in obstructing consumers' ability to access information, and the impact this has on competition, was shown nearly forty years ago by Diamond in his famous paradox of many firms in a market but all charging monopoly prices. P. Diamond, (1971), A Model of Price Adjustment, J. Econ. Theory, 3(2), 156-58

economicus that much of the literature assumes them to be then their biases may hamper their ability to drive competition.

For example with regards to accessing offers, there is substantial evidence consumers tend to look at relative search costs rather than absolute search costs.[5] Consumers may also fail to anticipate add-ons and search only on headline price, or consumers may forget previous experiences.[6] With regards to assessing offers, consumers' ability to assess which product would suit them best may be impaired by incorrectly anticipating risk, underestimating or overestimating future use, or overweighting the present.[7] When faced with more information than can be easily analyzed, they may look only at a sub-set of information and use rules of thumb to assess the information. Furthermore they may be distracted by the way in

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[5] By way of example, a consumer may be willing to travel an hour across town for a half price offer on a £20 pen, but would not travel an hour across town for £10 off of a £500 television even though the amount saved (£10) would be the same. This may imply that search costs are more prevalent on large ticket items than small ticket items.

[6] For example Agarwal et al investigate learning in the credit card market. They find that although consumers learn (through negative feedback), this hard-earned knowledge does not fully persist (that is knowledge depreciates)., S. Agarwal, J. C. Driscoll, X. Gabaix and D. Laibson, (2008), Learning in the Credit Card Market, Working paper series.

[7] See for example, S. DellaVigna and U. Malmendier, (2006), Paying not to go to the gym, Amer. Econ. Rev, 96(3), 694-719. Using data from three US health clubs, the authors find that consumers frequently choose contracts that appear sub-optimal given their attendance frequency. Members who choose a contract with a flat monthly fee pay a price per expected visit of more than $17, even though they could pay $10 per visit using a 10-visit pass. They suggest this could be driven by consumer overconfidence about gym attendance.

which information is framed and presented.[8] Finally consumers may have biases which delay their ability to act on the information they have accessed and assessed. For example, if consumers have overconfidence in their ability to act in the future, this can create inertia and a tendency to fail to act today.[9]

The key implication for contingent charges is that the ability for consumers to access, assess and act in order to make well reasoned decisions may be particularly sensitive to what information they have and how it is displayed. Indeed, experimental research commissioned by the OFT showed that small changes in the way information was presented resulted in significant changes in consumer purchasing behaviour.[10] This may call into question consumers' ability to discipline the market and drive competition.

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[8] For example, V.G. Morwitz, E.A. Greenleaf and E.J. Johnson, (1998), Divide and prosper: Consumers' reactions to partitioned prices, J. Marketing Res., 35, 453-463, find that, when prices are presented in parts, consumers' ability to recall the entire price for the good is diminished and demand is increased. Similarly, T. Hossain and J. Morgan, (2005), Plus Shipping and Handling: Revenue (Non) Equivalence in Field Experiment on eBay, Advances in Econ. Analysis & Pol'y, suggest that consumers treat the base price separately from the handling fee in a natural field experiment they conducted using eBay auctions. The authors found that charging a low reserve price compared to the retail price of the good and high shipping and handling costs resulted in a higher total sales price than the reverse situation (low shipping and handling but high reserve price).

[9] For a general review of this literature, see S. DellaVigna, (June 2009), Psychology and Economics: Evidence from the Field, J. Econ. Literature, 47, 315-372

[10] Office of Fair Trading, May, 2010. "The impact of price frames on consumer decision-making", Economic Discussion paper, OFT1226.

6.3 Exacerbating consumer biases to soften competition

Whilst the existence of consumer biases may hamper consumers ability to drive competition, firms' behaviour can both exacerbate and exploit these biases. For example firms can make it more difficult for consumers to access information about the price of a product by putting many of the charges in extras or add-ons contingent on various scenarios.[11] By restructuring their tariffs or including separate clauses which provide for the imposition of contingent charges, firms can make it harder for consumers to access the information that reveals the true cost of the product.[12]

Firms can also make it more difficult for consumers to assess the best deal across firms.[13] Behavioural economics indicates that consumers have difficulties comparing across differently structured offers. Contingent charges may particularly exacerbate this if there are different contingencies across different offers all with different costs and probabilities attached to them.

Finally firms can make it more difficult for consumers to act to get the best deals. Behavioural economics indicates that consumers may display more inertia than traditionally suggested, perhaps due

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[11] Low-cost airlines appear to be particularly effective in using drip pricing to exploit the fact that consumers are more likely to buy the product after they have invested time in it, see, for example, D. Milmo, (30 September 2009), Ryanair Scraps Airport Check-in Desks, Guardian.

[12] See, for example, M. Eisenberg, (1995), The Limits of Cognition and the Limits of Contract, Stan. L. Rev., 47(2), 211-59.

[13] See G. Ellison and S.F. Ellison, (March 2009), Search, Obfuscation, and Price Elasticities on the Internet, Econometrica, 427-452, who argue that economists should think about firms' active incentives to obfuscate as much as consumers' incentives to search.

to overconfidence in their capacity to improve things at a later time. Firms, knowing that consumers display this inertia, can increase switching costs. For example, making consumers use registered post to cancel, or levying high charges if they want to cancel their contract or transfer providers. Other practices may involve the use of 'opting in' defaults and automatic enrolments, or the use time limited offers to inhibit switching.

It is important to note that firms will not always be in a position to exploit these biases. Nor will all firms want to exploit consumer biases. For example, there may be potential for new firms to enter and promote products by making a virtue out of not exploiting biases.[14] Such market solutions to problems arising from behavioural biases are discussed in the last section. However, there is a body of behavioural literature suggests that there may be situations in which all firms exploit consumer biases and none of them has a unilateral incentive to correct this situation.[15]

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[14] In 2008 Southwest Airlines introduced its "No Hidden Charges' advertising campaign, highlighting the fact that whilst other airlines may have hidden charges in their flights prices, Southwest Airlines did not. This campaign ended in 2009. See USA Today "Southwest replaces 'No Hidden Fees' with new add campaign." June 2nd 2009.

[15] See for example X. Gabaix and D. Laibson, (2006), Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets, Q.J. Econ., 121(2), 505-40.

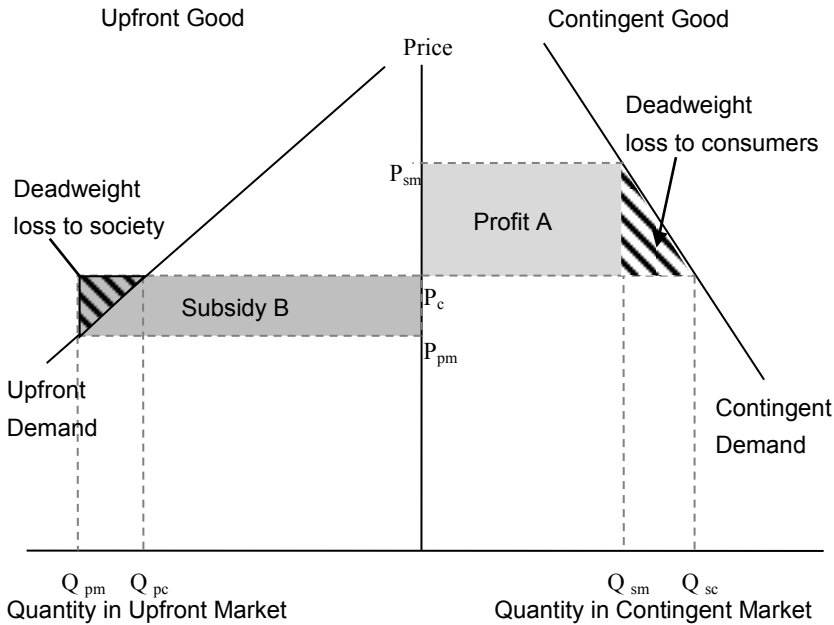## 6.4   Cross subsidisation may result in miss-allocation of resources

The previous discussion considered the possibility that firms may deliberately hide their prices through contingency charges in order to take advantage of their biases and make greater profits. However it has been conjectured that any additional profit made from charging high contingent charges to customers incurring them will be competed away by reducing the price of the upfront good in order to attract them.[16]

However even competition exists, this effectively results in a cross subsidy from those who buy the product and incur the contingency charge to those who buy the product and do not incur the contingency charge. This may generate allocative inefficiencies, in particular there may be over-consumption of the upfront good, and/or under-consumption of the contingent good (for example people may work too hard to avoid it).[17] This is shown diagrammatically below:

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[16] Reference to cases where they have claimed a deferred benefit.

[17] In the UK the Competition Commission estimated that the cross subsidy from the price of insurance on loans to loans resulted in an allocative inefficiency in excess of £200m. See Competition Commission, (January 2009). Market investigation into payment protection insurance, Final Report, 10.494.

Upfront Good   Price   Contingent Good

Deadweight
loss to consumers

P_{sm}

Profit A

Deadweight
loss to society

P_c

Subsidy B

P_{pm}

Upfront
Demand

Contingent
Demand

Q_{pm} Q_{pc}

Q_{sm} Q_{sc}

Quantity in Upfront Market

Quantity in Contingent Market

The left hand side of the diagram shows the demand for the upfront good. The right hand side of the diagram shows the demand for the contingency. We start by assuming that all the profits made on contingent charges are competed away trying to attract consumers upfront. This means the level of contingent charge profits (the red rectangle) is exactly equal to total subsidy given to attract new customers (the green rectangle).

Therefore even if all profits are competed away, there remain two sets of 'allocative' inefficiencies to society (the two shaded triangles). The first loss is the shaded triangle in the contingency market. Here there are too few consumers buying the good because the price is above the competitive level. The second loss is in the upfront market. This is a 'deadweight' (that is, loss to society) loss resulting from a product which is priced below cost. At a price below cost there is excess demand. Consumers buy the good even though they value it below the cost of its production. This is overconsumption of the good.

6.5 The efficiency rationale for contingent charges

Whilst contingent charges may provide a means to exacerbate consumer biases in order to soften competition or exploit consumers, contingent charges have a legitimate rationale. Contingent charges can serve as an efficient mechanism for targeting cost-recovery ensuring that only those consumers whose behaviour or circumstances give rise to additional costs have to pay the charges related to the costs to which that behaviour or those circumstances give rise. For example the payment of additional baggage charges that incur higher costs for airlines may well be an efficient mechanism to allocate the costs to those consumers who incur them.

Furthermore even if behavioral biases can hamper consumer decision-making in markets, and firms may exacerbate these difficulties through the use of contingent charges, this may not translate into a need for more consumer intervention. In many circumstances contingent charges can still be viewed as benign with no need for regulatory action. Indeed even when firms are undoubtedly seeking to exploit behavioural biases it may be that the market does self correct in the way that advocates of a freedom of contract idealology propose. Specifically, markets can be self-correcting through consumer learning, third party solutions or self regulation.

For example even though firms may have an incentive to mislead consumers this may not be possible (for long) if consumers learn (individually or collectively) from their mistakes. A consumer who learns can switch supplier or purchase more intelligently, and other consumers may learn from his or her experience.[18] This will

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[18] Of course where a mistake leads to irrevocable and significant detriment (for example, buying the wrong pension) learning may not be sufficient to prevent serious harm.

mean those firms who have a reputation for dealing fairly with consumers will thrive, while those that treat them poorly will gain a poor reputation and exit.

There are of course limits to learning. In markets where consumers make frequent purchases (or can benefit from the learning of others via word of mouth or other means) learning is more likely. By contrast, when purchases are infrequent or large value (for example, when entering into a sale and rent back arrangement), then learning may not provide the constraint required,[19] and consumers may suffer disproportionate harm en route to acquiring it. Whether there is scope for consumers to learn from their mistakes in a way that confers a net benefit on them depends on a number of factors associated with their own characteristics (elderly consumers may not be ideal subjects) and those of the market in question. As noted below, not all markets have the potential for self-correction of any kind, let alone self-correction via consumer learning.

Subject to obvious caveats of this kind, there can, in appropriate cases, be wider benefits of allowing consumers to make mistakes and learn from them. Such experiences should in principle be capable of teaching consumers market skills that are transferable across many of their day-to-day decisions in markets. This may, in turn, enhance consumers' active involvement in markets.

A second reason why the market may self correct is due to the actions of third party firms. For example the news media often report

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[19] However an interesting result of the behavioural literature is that it may not be essential for consumers to 'correct' their behavioural biases. See DellaVigna, (2009). As long as consumers learn that they have the bias, then they will make allowances for this in their behavior. This will, in turn, limit the extent to which firms can exploit such biases. The implication is that educating consumers about their biases, even if this does not change them, may be sufficient to remove much of the associated consumer detriment.

consumer interest stories, and can thus play a role by making consumers aware of their biases, or at least aware of the tariff structures that exploit their biases. This may result in a virtuous circle in which the more consumers understand their biases, the less firms try to exploit them. For example, in personal banking in the United Kingdom, the OFT lost the appeal relating to its proposed intervention on unauthorized overdraft fees.[20] Nevertheless, the substantial publicity surrounding this case may well have been a factor in a variety of changes in the market.[21]

Advisors and intermediaries can also play a catalyst role in improving consumer decision-making, where there are consumer biases. Consumer organizations, such as Which? in the United Kingdom, advise consumers of potential pitfalls (i.e. hidden terms or prices) and make recommendations to help reduce complexity. They can use various media to get their messages across. Arguably, the reach and effectiveness of intermediaries have been greatly extended with the advent of the internet and the ability to compare prices and terms across different sellers.

Intermediaries will not always provide the necessary panacea. Indeed, there may be cases when incentives of the intermediaries are not aligned with consumers. For example, when firms pay intermediaries for their advice to consumers then their impartiality may well be questioned. However, there are many cases where

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[20] See UK Supreme Court Judgment, (2009), The Office of Fair Trading v Abbey National plc and Others, UKSC 6.

[21] Some smaller banks are positioning themselves explicitly as offering a simple deal, while some larger ones are promoting new tariffs without overdraft charges or have restructured their tariffs to include daily charges rather than usage charges. While it is too early to tell whether these will be successful in driving better outcomes for consumers, these examples illustrate how information can work alongside competition to provide incentives for firms to overcome market failings.

market solutions, of one sort or another, will work well. And where they do, this will typically be preferable to intervention, given that the market is typically better placed to devise solutions than a regulatory authority.

Finally, self-regulation can also play an important role in improving consumer decision-making or ensuring firms do not exploit consumer biases. Firms may opt to join schemes that make a virtue of requiring them to behave in particular ways that consumers know are beneficial to them. This can be helpful where firms do not have a unilateral incentive to improve market outcomes but might have a collective industry incentive to do so.[22] For example, if reducing price complexity could increase industry-wide demand, by making consumers more confident to enter the market, then this may be something that could be achievable through self-regulation.[23]

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[22] Self-regulation may also create competition concerns as it may provide opportunities for anticompetitive practices, such as foreclosure or price-fixing. For more details, see Office of Fair Trading, (March 2009), *The Economics of Self Regulation in Solving Consumer Quality Issues*, Economic Discussion Paper, OFT1059.

[23] One example of a self-regulatory body is the U.K. Advertising Standards Authority ('ASA'). Part of the ASA's responsibility is to adjudicate over claims of false, or misleading, advertising. In doing so it ensures that firms do not unduly attempt to play on consumer behavioural biases through such techniques.

6.6 When may contingent charge intervention be warranted?

So far we have discussed (i) why consumers may have difficulty in making well reasoned decisions in the face of contingent, (ii) how firms may exacerbate these decisions, but (iii) why intervention may not always be the solution. This leaves us in the undesirable position of saying that in some cases contingent charges may be efficient, but they may also lead to significant amounts of consumer harm. The key is being able to differentiate when these cases are, and whether the state should intervene to address it – given the difficulties in intervention. So where does this leave us with contingent charges? Under what conditions should an authority intervene?

First it is worth stating that intervention is not costless. Where markets self-correct, intervention is unlikely to be necessary and may even be harmful, Even where intervention is necessary because markets cannot self-correct, care must be taken when intervening. There is no guarantee that authorities will necessarily improve the market or not create unforeseen consequences elsewhere. It has been long understood that firms inescapably tend to have better access than either consumers or regulators regarding information as to (for instance) what form an intervention might take, how they will react to it, and hence how to influence the authority making it.[24] Firms may have incentives to manipulate the information they provide to authorities in order to gain more favourable outcomes. More simply, it may be that authorities simply do not have the level of expertise required to make delicate interventions or the time and resource to acquire it. Authorities should be conscious of their own limitations.

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[24] This asymmetry of information has long been acknowledged in the context of economic regulation. See Laffont, Jean-Jacques and Jean Tirole. 1993. A Theory of Incentives in Procurement and Regulation. Cambridge, MA: MIT Press.

One way of minimizing the issue of information asymmetry in relation to regulation is to look for solutions that solve the problem, but still provide consumer choice of which solution they use. This may be described as a 'liberal paternalist approach'.[25]

Given the beneficial and harmful effects of contingent charges we need principles to differentiate between the beneficial and harmful cases. What should these principles be?

One clear delimiting principle is that we would only want to intervene if firms were in a position in which they have the ability to harm consumers, that is where consumers are unable to protect themselves. With regards to contingent charges this can be broken into two principles corresponding to the two ways in which consumers may be able to protect themselves. The first principle is that if consumers can and do pay attention to the total life time cost of the product/service they can protect themselves from unfair contingent charges. If consumers take account of contingent charges in their initial purchasing decision then the charges will be constrained.[26] The second principle is based on the possibility that consumers may be able to consciously, and without cost, chose whether or not they incur a contingent charge. If this is the case a

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[25] For a popular explanation of liberal paternalism see R. Thaler and C.R. Sunstein, (2008), *Nudge: Improving Decision about Health, Wealth and Happiness*.

[26] Such a principle is similar to the principal of Dominance in competition law. If, as a response to increases in the secondary market, consumers can easily switch away from the primary market without incurring significant costs, there is likely to be a 'bundled' market without the existence of a separate market for the contingent charge. In such circumstances the fact that a firm has market power in the secondary market only is unlikely to allow it to exploit consumers. See O'Donoghue, R. & Padilla, A. J. (2006) "The Law and Economics of Article [102 TFEU]" First Edn., Hart Publishing, Oxford and Portland, Oregon, Pg 102.

consumer authority would not want to intervene if consumers could easily exercise choice to avoid the charge.

Furthermore, even if there is an ability to harm consumers and consumers can not constrain firms directly, firms may not in practice exploit this ability. If there are reputational or other factors that clearly constrain their actual willingness to do so on a continuing basis, this will affect the intervention appetite of any reasonable authority. Thus a further principle regarding intervening may be if there is a strong likelihood of actual consumer harm. Finally, an authority may not want to intervene if there is an efficiency rationale/benefit resulting from the practices that is passed back to consumers. The final principle thus involves the question of whether there is an 'objective justification' for the contingent charge that provides clear net benefits to consumers.

Taking these principles suggest the possibility of developing economic "screens", similar to screens one sees in Competition Law, in order to prioritise when an authority should intervene. Each of the principles are discussed in greater detail below.

First Principle: Do not intervene if consumers constrain contingent charges through their upfront purchasing decisions

If consumers make their primary purchasing decisions based on the total expected cost, including the contingent charge, then increasing contingent charges will simply result in consumers picking alternative products with lower contingent charges. This will provide a constraint on firms' ability to charge unfair contingent charges.

Whether or not consumers provide such a constraint through their upfront purchasing decisions before buying the product, hinges on the *access* and *assess* elements discussed previously. If consumers are unable to access the relevant information on contingent charges, for example the charges are not clearly displayed, or the contingent nature of the charge is hard to estimate (for example, the probability

or circumstances in which it is incurred), then it is unlikely that consumers will constrain the firm's contingent charging behaviour. If consumers are unable to assess the full price of different firms offerings for instance because they are all structured very differently, then it is again unlikely that they will be able to constrain contingent charging behaviour through their upfront purchasing decisions.

It is important to note, that from an economic perspective, there is a significant difference between whether consumers *can* factor in contingent charges in their purchasing decisions and whether consumers *do* factor in contingent charges. Whilst the possibility to factoring in charges is clearly necessary for consumers to be able to exert a constraint on them, it is not sufficient if we are concerned about whether firms have the ability to impose exploitative charges on consumers. Regardless if consumers *can* factor in exploitative charges, if in reality they *do not* then the firm will still have the ability to impose exploitative charges.[27] This *can* versus *do* debate is particularly important in the context of firms' ability to exacerbate consumer biases under the *access* and *assess* elements as discussed previously. In general there are likely to be a wide range of actions that the firm could undertake in order to promote consumers' ability to factor in contingent charges in their initial purchasing decisions. However as discussed above, in some instances firms will be able to

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[27] The debate regarding can versus do, is also reflected in the debate of freedom of contract versus consumer protection discussed previously. Freedom of contract, by focusing on a contract being in plain intelligible language, concentrates on whether consumers could protect themselves from harmful terms, regardless of whether they do in practice. A slightly different way of considering the can versus do debate is to contemplate what a theoretical 'typical' or 'average consumer' would do when presented with the term. This is the context in which Smith J considered the question of whether Bank Charges were unfair. See Para 89, *OFT v Abbey National and Others*, 2008, EWHC 875.

profit from contingent charges, thus creating an incentive to hide them and make it difficult for consumers to factor them in. The easier that firms make it to factor in contingent charges the more likely it is that consumers will take account of them in practice.

In practice one might expect that products with contingent charges will seldom meet this first 'screen'. By their nature contingent charges are often highly complicated, uncertain, and difficult to compare across firms. However firms may decide to incorporate the contingent nature of charges into the main product offering, charging a small insurance-like premium in order to factor in the possibility that the contingency is raised. These types of charging structures, whereby the price is all upfront, are likely to allow consumers to exert constraints on firms and will remove their contingent nature.

Second Principle: Do not intervene if consumers constrain contingent charges through their choices of incurring them.

The second principle is based on there being no need to intervene if consumers' active and conscious decisions regarding whether they incur contingent charges act as a constraint on the level of those charges. If having purchased the "upfront good" there is scope for consumers to decide not to use optional ancillary services (say), they can make rational, informed decision regarding incurring of any associated contingent charge. In that case, an increase in the charge will result in consumers refusing to use them and hence provides a constraint.

Whether or not consumers can provide effective constraints through their direct actions on contingent charges again depends on the *access*, *assess* and *act* elements discussed previously. If consumers are unable to see both the underlying costs and value of incurring the contingent charge in advance of incurring it then they cannot be said to have made a conscious and rational decision regarding incurring it. Likewise if consumers have no real alternatives

regarding the incurring of the contingent charge, there will be nothing to assess and it is unlikely that they will provide a constraint on its fairness. For example if the only alternative of incurring a £10,000 contingent charge is to break the contract and incur a £100,000 penalty then there are no feasible alternatives. In such a situation the consumer's alternative of breaking the contract will not constrain the fairness of the contingent charge. Finally consumers need to have a realistic ability to act and avoid the contingent charge before it is incurred. For example if the charge is levied without the consumer knowing it has been incurred, then the consumer has no ability to change his or her actions. Without the ability to act and avoid the charge, the consumer will be unlikely to provide a constraint.

Just like the first principle, there is a question of whether the mere possibility to constrain contingent charges is sufficient to ensure they are constrained. As previously stated, from an economic perspective the key question is whether consumers' actions are actually providing a constraint on contingent charges. Therefore whilst it is necessary, it is not sufficient, that consumers are able to make conscious decisions regarding their incurring of contingent charges. The key is that consumers actually do provide a constraint. Once again, the extent to which they provide the constraint is likely to be highly correlated to how easy it is to provide that constraint. Where firms have rules such that it is hard (even though it may be theoretically feasible) or costly for consumers to avoid the contingent charge, it is unlikely that consumers will provide a constraint. Of course in practice this is likely to be an empirical question – are there sufficient numbers of consumers who are constraining the firm, and can they protect the consumers who are unable to provide the constraint?

Third Principle: Do not intervene if consumers are not harmed by the lack of constraints

If consumers do not provide a constraint on contingent charges either through their primary purchases, or in their choice of incurring the contingent charge, then there is the possibility of consumer harm. However as previously discussed it is not always evident that such harm will be significant or long lasting and hence require intervention, nor is it always evident the practice will lead to elevated or distorted prices

This third principle is designed to ensure that intervention only occurs where the contingent charge actually harm consumers. In some cases it may be very simple to determine whether a contingent charge is generating harm to consumers. For example if the contingent charge is both non-essential in terms of enabling the firm to supply the product, and consumers have a clear preference not to incur it, then the imposition of such a charge is likely to generate consumer detriment. However in other cases it may be more complicated, for example if the contingent charge is essential for the provision of the upfront good, then the question of whether there is harm or not will centre on the level of the price charged.

Note that this is an economic principle. As such, we are assuming that it is possible to determine whether there is actual consumer harm. In reality it might be much more difficult to determine this. For example if we believe that price should reflect cost, how should cost be determined? For this reason, one may wish in law, to use the standard of 'likely harm' rather than actual harm. One may even be tempted to go further, and conclude that if firms have the ability to harm consumers (i.e. the first two principles indicate consumers cannot constrain firms), then one might conclude that this third principle is unnecessary. If firms have the ability to harm and profit from consumers should one not simply presume that this harm occurs?

However there is a danger of always presuming the harm and not considering the likelihood of harm. In particular there may be situations where it is simply not possible to give the consumer sufficient transparency such that a firm could pass the first two economic principles. In such a case there is always the ability to do harm, and hence the only thing the firm may do to ensure no intervention is to ensure prices are fair. Therefore it may be prudent to have this third principle in some form.

When considering the level of a contingency charge that consumers cannot constrain, there is a fundamental question of what is the 'fair' price for such a charge. One suggestion for a fair price may be one which ensures that the firm still has an incentive to provide the service (or at any rate will not actually suffer a loss in providing it), but has no incentive to provide the service when it is not required. This second element is essential given that the first two principles imply that consumers cannot provide a constraint themselves. The combination of these two elements implies that the fair price is the long run average incremental cost (LRAIC) of providing the "contingent good".[28] That is, the charge that leaves the firm indifferent to providing it or not. This is also the same measure that regulators use to regulate prices when firms have the ability to exploit consumers and there are not viable alternatives. If the firm charges above this level it will have the incentive and (given the lack of constraints), the ability to create situations in which the customer incurs contingent charges.

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[28] LRAIC is a concept used in the regulation of monopoly elements of phone networks. For a further discussion of different cost benchmarks see "Assessing profitability in competition policy analysis", OFT Economic Discussion Paper 6, July 2003.

Final Economic Principle: Do not intervene if contingent charges provide consumer benefits that outweigh the harm

The final economic principle provides for the possibility that even though there may be likely harm to individuals, the contingent charge may provide wider benefits that both outweigh the harm, and cannot be replicated by other means.

As discussed above, contingent charging may result in significant cross subsidies between consumers. That is not necessarily a reason for intervening. On the contrary, some degree of cross subsidy between consumers may be efficient when it is correlated with consumer's willingness to pay. But equally just because one set of consumers gets *some* benefit from contingent charging – e.g. just because firms can claim that they would otherwise have to raise headline prices - does not mean there will necessarily be no case for intervening.

An interesting question is to what extent do the individuals who are harmed have to be the same as the individuals who benefit? More specifically, to what extent are we willing to allow harm to certain consumers in order to secure greater benefits to other consumers?[29] In general as a society we recognise that it is often impossible to make consumers generally better off without making some consumers worse off. The question is to what extent are we willing to trade off individual consumer detriment with wider consumer benefits. Obviously the answer has to depend on the relative levels of harm and of benefit. There may be difficulty where they are similar and/or there is little or no overlap between the categories of victims and beneficiaries.

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[29] This question has also been considered in the context of competition law. See for example "*Roundtable discussion on Article 101(3) of the Treaty on the functioning of the European Union*" OFT, 2010, http://www.oft.gov.uk/news-and-updates/events/roundtable-article101/

6.7 Does the economics translate into the legislation?

So how do the four economic principles set out above correspond with to legal test? Before considering this it is important to provide some context into how law and economics interacts in the setting of rules. Whilst an economist may want to implement each of the principles precisely, looking at each of them in every case, this may well not be optimal from society's point of view. First, the burden of proving each of these steps for every case, in particular showing that there is clear consumer detriment, may be insurmountably high. If this is the case then there will be under-enforcement of the UTCCRs and under deterrence of harmful contracts. Second, a step by step analysis may generate significant uncertainty for firms regarding whether a term will be fair or not. If this is the case they may not use contingent charges which are beneficial to consumers.

Given the possibility for a case by case analysis resulting in under deterrence and significant uncertainty, it may well be optimal to provide a simpler set rules than the economic principles. With this framework in mind, it may be argued that the law under the UTCCRs correspond relatively closely to the economic principles set out above.

Regulation 5(1) of the UTCCRs states: *"A contractual term which has not been individually negotiated shall be regarded as unfair if, contrary to the requirement of good faith, it causes a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer."*

Regulation 6(2) goes onto provide for a partial exemption to this test such that: *"In so far as it is in plain intelligible language, the assessment of fairness of a term shall not relate - (a) to the definition of the main subject matter of the contract, or (b) to the adequacy of the price or remuneration, as against the goods or services supplied in exchange."*

The first economic principle deals with whether the charge for the contingency is taken into account by the consumer in his/her initial purchasing decision. This may be expressed as asking the question of whether the contingent charges are a core element of the product or whether they are an ancillary term. If it is a core term then consumers are likely to take notice of it and hence change their core behaviour to prevent them being exploited. This economic principle appears in two areas in the UTCCRs.

First, Regulation 5(1), starts by exempting terms that have been individually negotiated. If the contractual term is consciously and freely negotiated as between individual parties, it is difficult to argue that the consumer did not take account of that term in purchasing the product in the first place. This is consistent with the first economic principle.

Second, Regulation 6(2)(a) states that the assessment of fairness "*shall not relate to the definition of the main subject matter of the contract*". Where the term is the main subject of the contract then it is clear that consumers will condition their purchase of the contract on the basis of the term. However when it is ancillary to the contract then consumers are unlikely to pay attention to it (given its ancillary nature) and hence will be unable to constrain firms behaviour regarding it.

The second economic principle deals with the question of whether consumers can directly exercise a constraint regarding their incurring of the term. Section 5(1) states: *A contractual term which has not been individually negotiated shall be regarded as unfair if, contrary to the requirement of good faith, it causes a significant imbalance in the parties' rights and obligations arising under the contract, to the detriment of the consumer.* The first part, whether or not it is individually negotiated, has already been discussed above (and we will cover the requirement of good faith below). The key element is whether there is a significant imbalance in the parties' rights and obligations arising under the contract, that runs against the consumer.

When consumers either have no real control over whether they incur the charge, or no real alternatives to incurring it, they will not be able to constrain the charge. In this situation the firm has the power to impose a condition which the consumer cannot avoid. That is, there is a significant imbalance in the rights of the firm versus the rights and obligations of the consumers. The firm is able to impose obligations on the consumer which the consumer cannot constrain through direct actions regarding the term – for example refusing the charge, or switching firms. This is particularly important if the contingency is within the control of the firm.

The third economic principle states that one should only intervene when consumers' lack of ability to constrain the contingent charges translates into consumer detriment. Returning to Regulation 5(1), the legal test looks at whether the imbalance is to the detriment of consumers. Legally 'to the detriment of the consumer' pertains to the direction of the imbalance of rights and obligations rather than whether the outcome of the imbalance of rights and obligations results in a detriment to the consumer. Indeed, one interpretation of this is that if there is a significant imbalance (i.e. the first and second principle hold and the firm in a situation to exploit the term), then it can be presumed that the term is unfair.

Interestingly this suggests that consumers may not actually have to prove they could be harmed in order to show the term is unfair. That is if there is a significant imbalance that goes against the consumer, then it is presumed that the contingent charge is unfair. This goes back to the earlier discussion within the economics. There is some analogy to this in competition law. Under Article 102, for many of the abuses courts have devised simple screens under which there is presumed harm. For example in predation if price is below Average Variable Cost then the firm is presumed to be predating and harming consumers. It is then on the firm to argue that either there was no effect, or that there are consumer benefits that outweigh the harm (see below). Similarly in Article 101(1), certain practices are presumed harmful – for example when considering Retail Price

Maintenance there is no need to show either actual or likely effects. The presumption is that Retail Price Maintenance harms consumers.

The final economic principle states that one should only intervene when the detriment is not outweighed by consumer benefits which are directly a result of the contingent charge. In such situations preventing firms from conducting contingency charges would be on balance, harmful to consumers. This final principle does not have any direct analogy within the consumer legislation. However one might argue that the 'requirement of good faith' goes some way to address this. That is, even if the contract involves a significant imbalance of rights to the detriment of the consumer, this may not be contrary to the requirement of good faith if there are significant overall benefits from the term which outweigh the potential for harm.

The legislation is flexible rather than prescriptive, and designed to achieve an overall objective of avoiding abuse of bargaining power – if a consumer under a contract is practically no worse off for the inclusion of a term in that contract, then issues of imbalance to which it may be considered to give rise are merely technical. However, whether the good faith requirement allows for detriment experienced by one set of consumers to be disregarded on the basis of benefits exclusively experienced by others is quite another matter.

6.8   The UK Supreme Court bank charges decision

So far this paper has argued that the economics and law of contingent charges may well be relatively aligned. However such a conclusion relies on the interpretation of the Regulations. As with all law, different interpretations may create generate quite different

conclusions. Such a different interpretation lay at the heart of the Banks v's OFT case on unauthorised overdraft charges.[30]

Here the key question was whether a contingent charge that was not part of the core contract could be assessed for fairness by relation to its price. That is whether the third economic principle had a role to play in the determination of fairness. Returning to the UTCCRs, regulation 6(2) states that:

> *"In so far as it is in plain intelligible language, the assessment of fairness of a term shall not relate –*
>
> *(a) to the definition of the main subject matter of the contract, or*
>
> *(b) to the adequacy of the price or remuneration, as against the goods or services supplied in exchange."*

The case centred on exactly how clause (b) should be interpreted. Specifically should it be read in context with (a), or separately? This of course has a significant bearing on how one interprets the core versus non-core element. The question in front of the Supreme Court was how to interpret 6(2)(b).

One interpretation is that (b) only pertains to the core elements (i.e. read in conjunction with (a)). In such an interpretation the 'goods or services' quoted in (b) relate to the main subject of the matter. This would imply that the price of terms that don't relate to the main subject matter can be appraised. Such an interpretation would allow the price of contingent charges to be considered for fairness and is the interpretation that the OFT argued in front of the UK Supreme Court.

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[30] For a more detailed discussion of the legal case see *Directive 93/13 and the "price term exemption": a comparative analysis in the light of the "market for lemons" rationale*, Michael Schillig, International and Comparative Law Quarterly 2011, 60(4), 933-963

However another interpretation is that (b) should be read entirely separately from (a). In which case, as long as the term is in plain and intelligible language you can never look at the adequacy of the charge for that that term. Such an interpretation would not allow the price of contingent charges to be considered for fairness and is the interpretation that the Banks argued in front of the UK Supreme Court.

The Supreme Court in its judgement found that the unauthorised charges could not be assessed for fairness because they were part of the core term of the banks offering. Interesting the Supreme court judges came to the conclusion in a slightly different manner to each other. Lady Hale took the view that the problem was not of a lack of informed consumers, but a lack of alternative choices for consumers. Therefore she concluded that whilst there may be a problem, this problem was not routed in consumer law but was routed in competition law.[31] Lord Philips appeared to give weight to the fact that the charges levied on the smaller number of unauthorised overdrafts supported the 'free if in credit' model of free current account charges for all customers.[32] Whilst this appeared to play a decisive factor, Lord Philips did acknowledge that the fact that the few were subsidising the many raised questions of fairness, albeit ones that could not be considered in a proper interpretation of the regulations.[33]

So where does this leave us? The Supreme Court appears to have deferred to the ideology of freedom of contracts. That is, as long as the term is in plain and intelligible language, the term is fair.

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[31] See Para 93, Office of Fair Trading (Respondents) v Abbey National plc & others (Appellants) [2009] UKSC 6 On appeal from the Court of Appeal (Civil Division) [2009] EWCA Civ 116

[32] Para 88 Ibid.

[33] Para 80 Ibid.

However this raises the possibility that contingent charges are simply not assessable for fairness.

Unsurprisingly this possibility has raised concern amongst policy makers and subsequent to the case there were a number of different proposal for the amending of the UTCCRs to provide certainty of coverage of contingent charges. For example the Liberal Democrats (prior to their joining the current government proposed amendments under the Financial Services Bill that would amend the UTCCRs as follows:

(2) After regulation 6(1) insert:

1(A) Paragraph 2 shall not apply to contracts for the supply of financial services

(3) After regulation 6(2) insert –

"In so far as it is in plain and intelligible language, the assessment of a term in a contract for financial services shall not relate –

   (a) to the definition of the main subject matter of the contract, or

   (b) to the adequacy of the main price or remuneration, as against the goods or services supplied in exchange

(4) Where a term of a contract provides for the charging of a consumer and the circumstances in which that charge can be imposed need not arise during the term of the contract then such price or remuneration shall not fall within the main price or remuneration for the purposes of paragraph 3.

(5) If for the purposes of paragraph 3 there is doubt about what represents the main price or remuneration, the interpretation which is most favourable to the consumer shall prevail.

However, such an amendment only relating to financial services would leave other sectors, such as gym contracts, retirement homes etc. (and any other future potential sectors) still open to challenge by

businesses based on the Supreme Court judgment with the resulting lack of certainty and clarity.

Another suggestion was to amend the UTCCRs to ensure that only the "essential bargain" is excluded from possible assessment across all market sectors. It has been argued that this would provide the most coherent approach to balancing the need for consumer protection with market freedom. Against this approach lies the uncertainty of how might the term 'essential bargain' be interpreted and hence the uncertainty its use may have on all of the sectors where contingent charges operate. However, the fact that such an amendment would only result in the *potential* for such cases to be assessed for fairness, not an assumption that such charges would in all cases be unfair may mitigate the impact of this uncertainty.

A third possibility is to include a new term in the illustrative list of terms that may be unfair, which would ensure that non-default or disguised penalties are clearly indicated as having the potential to be unfair. Such a term would address the mischief of disproportionate charges which are payable upon the occurrence of a future event and intrinsically are not in the forefront of the consumer's mind when entering the contract. These charges are essentially windfalls for the trader, which for one reason or another, the consumer is unable to factor into the bargain when entering the contract. A new term would ensure that the illustrative list, with its current focus on financial penalties following a breach of contract does not have the unintended consequence of weakening challenges made against terms which are penal in nature but can not be said to fall into paragraph 1(c) because they do not arise from a consumer's breach of contract.

A final possibility is to amend the UTCCRs based on the current Australian legislation. Unfair terms legislation were introduced in Australia under the *Trade Practices Amendment (Australian Consumer Law) Act 2009. Within the legislation the following price exemption was included:*

6.9　Terms that define main subject matter of consumer contracts etc. are unaffected

(1) Section 2 does not apply to a term of a consumer contract to the extent that, but only to the extent that, the term:

(a) defines the main subject matter of the contract; or

(b) sets the upfront price payable under the contract; or

(c) is a term required, or expressly permitted, by a law of the Commonwealth or a State or Territory.

(2) The *upfront price* payable under a consumer contract is the consideration that:

(a) is provided, or is to be provided, for the supply, sale or grant under the contract; and

(b) is disclosed at or before the time the contract is entered into; but does not include any other consideration that is contingent on the occurrence or non occurrence of a particular event

These provisions appear to provide a clear definition of what is intended for the price exemption by the use of the term "upfront price" at (2) and the specific exclusion under 3 (b) of all contingent charges. While this would be an attractive option in terms of ensuring certainty of what is excluded under an assessment for fairness, this could have unintended consequences because of its wide coverage. For example, it could have the effect of including contingent charges such as those paid by a consumer to an estate agent on a successful sale of a property where it would be reasonable to expect that the consumer would know that this would be charged upon completion of the event, and the level of the charge.

6.10 Conclusions

Terms and conditions, and in particular contingent charge provisions have increasingly become a part of our daily routine. There is seldom an internet transaction which doesn't involve the acceptance of terms and conditions before a purchase can be made. Reading all of the terms and conditions before each transaction would be neither feasible, nor necessarily be comprehensible to the average consumer as opposed to the efficient calculating machine that traditional economics may suppose. However contingent charges are in many instances an efficient mechanism for allocating costs to those who incur them, minimizing subsidization inefficiencies for consumers.

Presented with the potential to do harm, but also to provide significant benefits, contingent charges require a set of regulations that allow judges to differentiate between these two categories. This paper has presented four economic principles that may facilitate such a differentiation, and indeed such principals may be seen as compatible with the current regulations. However the degree of compatibility depends on the interpretation of the regulations by the Courts. In the UK the recent judgment by the Supreme Court fundamentally questions the usefulness of regulations and appears to reassert the freedom of contract doctrine to the detriment of consumer protection. Such a judgment ignores the substantial evidence that humans are not economic calculating machines competent in weighing up the costs of different probabilities and contingencies. Consumers can and do make mistakes in calculating the value of contracts, placing the burden of responsibility on them to read every term of every contract will only provide firms with incentives to exacerbate these mistakes. Such a framework risks creating a market in which firms compete to deceive rather than compete to provide the most efficient products.

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Standard setting has become an area of disputes where firms view the same set of facts very differently depending on their incentives. Designing adequate competition rules that in an easy way handles these issues is hard. Competition authorities are thus helped by a deeper knowledge of the incentive structures in standards setting organizations. Hopefully, this volume contributes towards a better understanding of the mechanisms through which the rules governing such competition has an impact on markets – and towards a more effective enforcement of the competition rules.

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2007: The Pros and Cons of High Prices

Could there be any pros of high prices? The question is as natural as the question we got four years ago when we published *The Pros and Cons of Low Prices* – could there be any cons of low prices? These are questions competition authorities get from the public from time to other. It is a somewhat hard pedagogical task to answer them. The answer to both questions is yes, there are indeed pros of high prices and cons of low prices. This volume is devoted to exploring the pros and cons of high prices. We have solicited contributions from experts in the field, covering the main streams of development and discussing policy issues related to excessive prices in the light of these developments.

2006: The Pros and Cons of Information Sharing

This book focuses on information sharing between firms. Good information will allow firms to plan production and marketing activities, to invest in new capacity or in R&D and to price their products competitively. Similarly, consumers will be able to make rational choices if they are well informed about different products' prices and characteristics. On the other hand, detailed information about rivals' prices, production and sales can help stabilize cartels, by making it easier for the cartel members to monitor each other. In this volume some of the world's leading researchers present their view of the use of information sharing and how it could and should be handled by the competition authorities.

2005: The Pros and Cons of Price Discrimination

This book investigates the different aspects of price discrimination and its relation to competition law. Firms in most markets, both competitive and more concentrated markets, tend to price discriminate, i.e. to charge consumers different prices for the same (or almost the same) product. In some instances, this is a problem because it hinders competition, in others it is not; in fact, it is beneficial for the consumers. In this volume some of the world's leading researchers present their view of the use of price discrimination and how it is, could and should be handled by the competition authorities.

2004: The Pros and Cons of Antitrust in Deregulated Markets

This volume is about the intersection of competition law and sector specific regulation. When is competition law sufficient and when is sector-specific legislation necessary? What are the advantages of relying only on competition law? And which are the drawbacks? Although the authors mainly discuss energy and telecom markets, the principles they base their discussions on are of a general nature. They all subscribe to the view that competition is desirable and that markets should be liberalised, rather than monopolised. Despite this, they hold different views on the necessity of complementing competition law with sector specific regulation. According to some, competition law is sufficient in deregulated markets; according to others, the special properties of certain markets makes it necessary to introduce specific regulatory measures.

2003: The Pros and Cons of Low Prices

The book is about predatory pricing; an issue that has intrigued and bewildered the competition policy community for a long time and where conflicting views are held. The problem and the challenge for competition policy are to draw the fine line between pro-competitive pricing behaviour on the one hand and predatory pricing as an instrument of abuse on the other.

The purpose of this book is to assess predatory practices from a competition policy perspective and the implications of recent theoretical and empirical developments for a consistent treatment of such practices in competition policy. We have solicited contributions from experts in the field, covering the main streams of development and discussing policy issues related to predation in the light of these developments.

2002: The Pros and Cons of Merger Control

The book is intended to serve as a contribution to the debate on merger control and consists of four individual contributions from independent scholars and professionals with an expertise in economics. Naturally, the opinions expressed are those of the authors alone.

The pros and cons of merger control are high on the agenda of policy makers, competition authorities, academics, representatives of industry and labour organizations, and others. The need for merger control is widely supported – but the specific principles and tools by which it should be exercised are subject to discussion and debate, and also revision. The review of the Merger Regulation in the Green Paper by the European Commission has raised several fundamental questions.

The pros and cons of changing the "substantive test" from the dominance standard to the SLC-test ("Substantial Lessening of Competition") is an issue that needs careful scrutiny. The concept of collective dominance and other issues such as jurisdiction, efficiencies, and procedures are also of great importance.

The books can be downloaded from www.konkurrensverket.se