

# Behavioral Industrial Organization and (Competition) Policy

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- Economics: the scientific analysis of how individual behavior plays out in organizations and markets, what the consequences are for individuals' well-being, and what we can do to improve things.
  - Mathematical modeling of arguments.
  - Statistical testing of hypotheses.
- Classically, economics starts from extremely simplistic assumptions about human behavior.
- Behavioral Economics: A way of doing *economics* built on the conviction that economic models and insights should start from psychologically accurate models of individual behavior.

Behavioral Industrial Organization explores (economically important) market interactions between firms, or between firms and consumers using a non-classical decision-making model.<sup>1</sup>

- The central feature of the decisionmaking model used should be psychologically well-founded.

Relatively new field:

- A decade ago, editors of the Handbook of IO did not feel the need to include it.
- Literature exploded since then.
- Already been applied in a number of *unfair contracting cases and market studies*.
- Used to think about *remedies* in the microsoft case.

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<sup>1</sup>Source: Heidhues and Kőszegi (2018).

# Short-Run Desires versus Long-Run Goals

## Time-inconsistency in the field

- Researchers studied gym-goers with two options for paying.<sup>2</sup>
  - ① Monthly fee of over \$70 for unlimited use of the gym.
  - ② Pay-per-visit fee of \$10 (charged by just swiping their membership card).
- Most gym-goers choose the monthly contract, and those who do exercise on average 4.3 times a month in the first year ( $\approx$ \$17 per visit).
- Furthermore, before canceling, consumers go for 2.31 months on average without using the membership at all.
- What's going on?
  - Survey evidence suggests that many people think “they should” go to the gym more often than they “do go”.

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<sup>2</sup>Source: DellaVigna and Malmendier (2006).

# The Explanation: Present Bias

Basic idea: when making tradeoffs over time, the present has a special place.

- I usually prefer to avoid the pain of exercising today.
- *From today's perspective*, I'd prefer to exercise most days in the future.
- Conflicting with today's goals, once tomorrow comes, I'll again not want to exercise ("time inconsistency").

Two hypotheses regarding whether a person is *aware* of this conflict:

- ① Sophistication: fully aware.
- ② Naivete: fully unaware.

Important implication: consumers make decisions that are suboptimal from their own point of view.

- Such a consumer exercises rarely.
- But from each day's perspective, she prefers to exercise often.
- So she'd be better off exercising often.

# “Gyms” Case in the UK

## Ashbourne Management Services Consumer Enforcement Case

- AMSs membership contracts combined minimum contract lengths (for 12, 24 or 36 months) together with high contract termination fees.<sup>3</sup>
  - Think of termination fee as “hidden price” component.
  - “Hidden” because consumer mispredict future usage!
- OFT, indeed, argued that the combination acted like a “trap” .
  - Cited the above evidence that gym goers pay almost twice as much for monthly contract, and collected survey evidence from the UK.
- Court found that AMS’s business model was *“designed and calculated to take advantage of the naivety and inexperience of the average consumer using gym clubs”*, whom the firm *“exploited.”*

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<sup>3</sup>Source: Nuñez (2017).

# Standard Competition Economics Suffices

*“...robust competition is the best single means for protecting consumer interests”* (Muris, 2002, cited in Spiegler 2015).

- Competition policy enforces competition.
  - *“Standard antitrust analysis already incorporates actual consumer behavior into its analysis through concepts like market power, the hypothetical monopolist test, and demand elasticities, which measure consumer responsiveness (with or without cognitive biases) to changes in prices and other market conditions.”* (Wright and Stone, 2012)
- Competition
  - protects consumer from being exploited through high prices,
  - if well done, it fosters innovation and quality provision.
- Behavioral economics only useful for consumer protection.
  - OK: maybe remedies, or market studies on what limits competition (e.g. consumer inertia).
  - Note: same elasticities may imply different welfare effects (e.g. overestimate preference for variety).

*“[o]ne important result of [the] preoccupation with the monopoly problem is that if an economist finds something—a business practice of one sort or other—that he does not understand, he looks for a monopoly explanation. And as we are very ignorant . . . the number of ununderstandable practices tends to be very large” (Coase, 1988, p. 67).*

- Behavioral economics can explain business practises from new perspective.
- If (more) plausible, relevant for competition cases.

# Unplanned Purchases and Predatory Pricing

- Supermarket consumers value two products milk and soap.<sup>4</sup>
  - $v_m > 0$  and  $v_s > 0$ .
- Erroneously believe only need soap with probability  $1/2$ .
  - Unplanned purchase.
- Anticipated utility of going to the supermarket:
  - $v_m - p_m + (1/2)(v_s - p_s)$ .
- When facing competition, optimal to set  $p_s = v_s$ .
  - Lowering  $p_m$  has same impact on profit per customer but seems a better deal to customers.
- Johnson's insight: suppose a small corner store can offer only one product.
  - Typically offer milk: gives higher perceived benefit to customer.
- Wait, that is the product that the large supermarkets price low—perhaps even below costs!
  - But this pricing not driven by predatory reasoning.

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<sup>4</sup>Source: insight Johnson (2017), example taken from Heidhues and Kőszegi (2018).

# Collusions versus Reference-Dependent Pricing

- We evaluate economic outcomes not only according to absolute utility values attached to them, but also in comparison to relevant reference points.
- Losses relative to a reference point are more painful than equal-sized gains are pleasant (“loss aversion”).
  - Loss aversion is probably behind the endowment effect and small-scale risk aversion.
- Idea: a market price is considered a loss (gain) relative to lower (higher) possible purchase prices.
- Then if consumers expect you to charge same price as a competitor, undercutting gives consumers a gain while raising the price a loss.<sup>5</sup>
  - Because consumer react strongly to losses, increasing the price reduce demand a lot  $\Rightarrow$  unprofitable to do so.
  - Because consumers react much less to gains, attract few consumers when lowering the price a bit  $\Rightarrow$  also unprofitable.
- Non-collusive reason for focal pricing.

<sup>5</sup>Source: see Heidhues and Köszegi (2008) for a complete model.

# Non-Standard Objectives and Incentive Arguments

*“an economist will forcefully express the view that the only meaningful goal of the rational business executive is the maximization of his own profits ... that is not going to ring true to anyone who has ... had to put his son-in-law in a business.” (Axinn, 1983)*

- If firms (also) follow other objective such as status preferences (“have number one market share”), revenge, etc..., we need to be careful with incentive arguments.
  - Recoupment test in predatory pricing: pricing is only predatory if firm can reasonably hope to recoup sacrificed profits through higher future rents from monopoly.
  - Careful when inferring “efficiencies” in mergers from the fact that absent cost-savings the merger would be unprofitable.
- If we allow for CEOs mistakes it also suggests to be careful with such arguments.
  - Mergers may simply be driven by overconfidence.<sup>6</sup>

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<sup>6</sup>Source: Malmendier and Tate (2008).

# Firm Mistakes and Mergers

## Strategic Naivete

- Hortaçsu and Puller (2008) analyze the bidding behavior of electricity firms in the Texas “balancing market.”
  - Firms trade to meet prior contractual obligations.
- Large firms best-respond to other firms' behavior.
- Small firms use bid functions that are too steep.
  - Intuitively, they are too inactive.
- This lower efficiency.
  - Merger could raise efficiency absent technological advantage of running multiple power plants!
- Hortaçsu et al. (2017) connect above facts to models of strategic sophistication in behavioral game theory.
  - Managerial characteristics predict sophistication and in different settings out-of-sample performance.<sup>7</sup>

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<sup>7</sup>Source: Goldfarb and Xiao (2011).

# Abuse of Dominance and Competitors' Business Practices

Issues from the German Facebook case.

*“Via APIs, data are transmitted to Facebook and are collected and processed by Facebook even when a Facebook user visits other websites. This even happens when, for example, a user does not press a “like button” but has called up a site into which such a button is embedded. Users are unaware of this. [...] we are not convinced that users have given their effective consent to Facebook’s data tracking [...]. The extent and form of data collection violate mandatory European data protection principles.”*

Andreas Mund, President of Bundeskartellamt.<sup>8</sup>

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<sup>8</sup>Source: press release by Bundeskartellamt.

# Abuse of Dominance

## My Understanding of the Argument and Important Issues.

- Because Facebook is dominant, consumers have no effective choice.
- Special duty not to abuse the dominant position when interacting with consumers.
- Violating data protection laws abuses the dominant position.
  - So can pursue using competition law.
- Note: competition likely not the root cause.
  - Competitive markets supply the product that maximizes perceived utility (subject to zero cost).
  - Consumers do not read privacy rules → do not notice better privacy rules.
  - Small competitors will likely use similar privacy rules.
- On the other hand, the fact that small firms do so a “bad defense”.
  - Competitive market exploits consumer unawareness/inattention.
  - Even if small firm does it, not necessarily a “valid” business reason.
- Either way, such cases require thinking about what consumers pay attention to.

# Attention and Switching Costs

- Consumer inertia often a concern for regulators.
  - Do not actively switch despite better products out there.
- Prior to 2010, all Hungarian auto liability insurance contracts ended with calendar year.<sup>9</sup>
  - Could only switch in November.
  - Active advertising campaigns.
- Since 2010, all auto insurance contracts last a year.
  - Significant difference in switching rates between new-regime drivers who bought their car in the middle of the year and those who bought it around January 1.
  - Explanation: advertising leads to more attention.
- Implication: estimated switching costs much lower once account for attention.

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<sup>9</sup> Source: Kiss (2014).

# Mistakes Identifiable from Market Data?

- Alcohol in the US is subject to two kinds of taxes:<sup>10</sup>
  - Excise tax: included in the posted price in the store.
  - Sales tax: added at the check-out counter.
  - These taxes vary across states.
- Demand is much more responsive to the excise than to the sales tax.
- More generally, can potentially test “consumer rationality” using readily available market data.<sup>11</sup>
  - Responce to equivalent price changes (as above).
  - Asymmetric demand response.
    - If the marginal printer consumer uses 40 cartridges for the printer, then a \$1 change in the cartridge price should have the same effect on printer demand as a \$40 change in the printer price
  - If assume firms' optimize, they should set add-on prices below costs whenever the marginal consumer demand more of the add-on than inframarginal ones.

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<sup>10</sup>Source: Chetty et al. (2009).

<sup>11</sup>See discussion in Heidhues and Kőszegi (2018).

- Examples that behavioral economics potentially relevant in the areas of
  - predation,
  - mergers,
  - collusion,
  - abuse of dominance.
- More basically, counterfactual analysis needs a good prediction of how the market works.
  - If behavioral factors important for consumer behavior, unclear whether fully captured by (current) elasticities.
  - Behavioral economics need not call for more intervention.
  - Can highlight new obstacles to competition.
- But behavioral economics is unlikely to be central in every competition case.
  - Contrasts with consumer protection cases.

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