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The FTC's Rendition of the "Cellophane Fallacy"

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Abstract In the pending case of *FTC v. Facebook*, the Government alleges price increases for the "free" service. In this zero-price offering, the FTC argues that effective prices have been increased by Facebook by relaxing rules that protect against the use of personal information. These instances have not led to observed declines in quantities demanded (for Facebook services), says the Commission. The conclusion offered is that the non-responsiveness of consumers provides evidence of Facebook's market power. The characterization of price increases is problematic, while the FTC's identified "inelastic" demand response constitutes an inverse "Cellophane Fallacy."

Introduction

In a major antitrust case brought against Facebook (aka, Meta), the Federal Trade Commission alleges that the social media platform has achieved a monopoly, largely through mergers, and has abused its market power by raising prices and restricting output.¹ In digital platforms, however, it is thought to be a difficult argument to make when consumers access services not by directly paying fees but by forming audiences for advertisers. How is a price equal to \$0.00 set above the competitive level?²

The FTC supplies a potential answer. While Facebook launched its application (in 2004) and developed its services by providing competitively superior products to industry incumbents Friendster and MySpace, it switched strategies after surpassing its rivals. Aided, pointedly, by its purchases of Instagram (2012) and WhatsApp

¹ "The U.S. Department of Justice (DOJ) and Federal Trade Commission (FTC) monopolization cases against Google and Facebook, respectively, represent the most important federal nonmerger antitrust cases.

² The FTC's case against Facebook focuses on pricing to social media users, not on the advertising side of this two-sided platform. That is presumably because online ad markets feature rivalry.

(2014), the newly dominant platform allegedly raised the price of access above competitive levels by relaxing privacy protections for users, enabling Facebook to more profitably monetize its sales of advertising. These charges drive the FTC to prosecute Facebook for “anticompetitive conduct and unfair methods of competition” that violate the FTC Act. Moreover, the Commission’s analysis of postulated price changes incorporates the agency’s conclusion that consumer demand scarcely budged, supporting the monopoly power that is asserted.

This short paper suggests that the quality-adjusted price increases are predicated on unconvincing theory and evidence, while the economic supposition surmising that price increases had no impact on consumers exhibits the Cellophane Fallacy – inverted. First, the Cellophane Fallacy is discussed. Second, we turn to the Price Increase argument made by the FTC. Third, we briefly detail the form of the Cellophane Fallacy made in the FTC’s Complaint.

The Cellophane Fallacy

In an antitrust case decided in 1956 by the U.S. Supreme Court,³ the defendant – du Pont – was accused of monopolizing the market for cellophane. The company countered the allegations by introducing evidence of the many competing products available to consumers, including aluminum foil, waxed paper, and polyethylene. Considering “all flexible wrapping materials”, du Pont was given a modest share and many alternative products were probed as substitutes. This seemed to demonstrate that du Pont faced an elastic demand for its cellophane products; the company claimed it could exercise no substantial ability to profitably raise prices. Consumers would simply switch away.

The Supreme Court found this approach compelling, and du Pont prevailed. The Court’s reasoning was:

If a slight decrease in the price of cellophane causes a considerable number of customers of other flexible wrappings to switch to cellophane, it would be an indication that a high cross-elasticity of demand exists between them; that the products compete in the same market⁴.

Alas, the decision has become well-known committing the Cellophane Fallacy. In fact, price theory suggests that monopoly firms face demand curves that are necessarily elastic.⁵

Consider the textbook case wherein a firm faces a linear demand curve for its products. The absolute value of demand elasticity (with $e_d = \% \Delta Q_d / \% \Delta P$) increases as

³ *United States v. E.I. du Pont de Nemours & Co.*, 351 U.S. 377 (1956).

⁴ *Ibid.*, 400.

⁵ More precisely, *elastic at the margin* – as explained just below.

the market price rises. This is seen by first supposing a very low price is charged by the firm. From this starting point, as higher prices are charged, the price increases tend to be large in terms of percentage change, and quantity declines proportionally low. As $Total\ Revenues = Price * Quantity$, these higher proportional price increases raise revenues (outputs decline with the price increases, but by a lower percentage). Because $Total\ Costs$ are constant (if marginal costs = 0) or declining (if marginal cost > 0) as outputs decline, profits increase as prices begin to rise. This is true along the *inelastic portion* of the demand curve. But above a certain price, the demand curve facing the firm becomes *elastic*. To maximize profits, the firm always adjusts prices (and outputs) to insure it faces a marginal demand that is in the elastic portion, as price increases in the inelastic portion are inevitably profitable.

The trick that du Pont's lawyers performed was to ignore how the company had come to price its cellophane product, directing attention to the end result: at the price du Pont charged, there were many effective substitutes. Had more competitive prices been in place, a counterfactual construction, the cellophane product might have been unique, with many inferior substitutes. Lawrence J. White identifies the difficulty in producing such a hypothetical market alternative as the great challenge of market delineation in monopolization cases.⁶ This price theory analysis, despite its wide acceptance since Donald Turner's 1956 critique of the du Pont opinion,⁷ yet complicates antitrust analysis.

Indeed. The erroneous application of price theory continues in the current FTC case against Facebook, with a twist. What is characterized as an Inverse Cellophane Fallacy will be discussed after the FTC's asserted observation of Facebook price increases.

Facebook's Alleged Price Increases

Facebook allows users to access its social media platform without monetary payment, acquiring data about its users that it monetizes via advertising availabilities. The user-side transaction – software access for data – is via contract. The privacy of the users is a key issue in such agreements, and the Federal Trade Commission has federal jurisdiction in enforcing relevant consumer protection laws.

The FTC alleges that, upon acquiring monopoly power in social media, Facebook exploited the situation to effectively raise prices by lowering privacy protections: “Without meaningful competition, Facebook has been able to provide lower levels of service quality on privacy and data protection than it would have to provide in a

⁶ White (2022).

⁷ Donald F. Turner, Antitrust Policy and the Cellophane Case, 70 Harvard Law Review (Dec. 1956): 281-318.

competitive market.”⁸ While Facebook was forced, as a start-up, to offer superior terms to users, this allegedly gave way to “lower levels of service” in the monopolization phase. This allowed greater data flow to advertisers, profiting Facebook.

The claim is not generated by privacy breaches – such failures by Facebook are subject to legal, regulatory, and economic sanctions. When contract terms are violated, users can pursue civil actions for compensation, and regulators can impose sanctions. The FTC, indeed, imposed a \$5 billion fine on Facebook in 2019 for violations established by the agency.⁹ And consumer demand, upon disclosure of such violations, would presumably be reduced, inducing a loss of profits.

By revealing preferences, consumers enjoy the ability to trade personal information for “free” services. That explains why social media platforms, and many other Internet-based businesses, often (even *typically*) operate with pricing structures based on advertisements rather than subscription models, or hybrid approaches bundling a mix.¹⁰ In each instance, there is some level of protection for the personal data collected, and firms compete to supply offers that consumers accept. It is not the case that the most restrictive models are inherently more protective of consumers’ interests, just as it is not true that the most relaxed consumer protections are advantageous for platforms to offer. Compromises govern behavior. Privacy law regulates. Market rivalry selects.¹¹

Indeed, data generated by the online behavior of Facebook users is very valuable in targeting third-party ads – for Facebook users. Irrelevant banners consuming screen space, download time, and bandwidth raise the effective price of the access paid by these agents, while better-targeted ads that increase the probability of relevance tend to improve it. The assertion that there is an unambiguous decline in consumer welfare when personal data collection is increasingly deployed to segment audiences for commercial messages is unconvincing.

The Inverse Cellophane Fallacy

The FTC claims, however, that Facebook has opportunistically ratcheted up its data collection, lowered service quality, and increased quality-adjusted prices. Moreover, further proof of its monopoly position is evidenced in the market

⁸ *FTC v. Facebook, First Amended Complaint for Injunctive Relief*, Case No.: 1:20-cv-03590-JEB (Aug. 19, 2021), Par. 221.

⁹ White (2022), p. 124.

¹⁰ “Over the past decade ‘freemium’—a combination of ‘free’ and ‘premium’—has become the dominant business model among internet start-ups and smartphone app developers.”

¹¹ Firms differentiate by offering distinct terms. Steve Kovach, “[Apple didn’t just take the moral high ground on privacy, it twisted the knife into Google and Facebook](#),” CNBC (June 4, 2019).

reaction: “the ability to withstand significant user dissatisfaction while experienc[ing] a minimal loss of user engagement” is an indicator of market power.”¹²

The FTC here characterizes the *lack of substitution* following alleged quality-adjusted price hikes as evidence of Facebook’s monopoly:

*“[H]istorical events indicate that even when Facebook’s conduct has caused significant user dissatisfaction, Facebook does not lose significant users or engagement to competitors. This is an indicator of market power... Facebook’s ability to withstand significant user dissatisfaction while experiencing a minimal loss of user engagement on Facebook Blue [the social media platform] indicates inelastic demand and market power.”*¹³

This is a form of the Cellophane Fallacy, where marginal demand conditions are taken for a general characterization of the marketplace. Instead of seeing abundant competition as in the du Pont case, however, it sees no competition. Yet the price theory exposing the Cellophane Fallacy posits that the demand facing the monopolist is *elastic*. Moreover, the observation reported by the FTC that consumers were unresponsive to the asserted price increase (as per a contract policy change) suggests, in fact, that consumers did not value the asserted change as the Commission hypothesized.

The argument that price increases meet with little resistance does not – lacking a specific, contemporaneous change in market structure reducing substitution options – imply that market power is in evidence. A similarly erroneous argument appeared in the debate over the XM-Sirius merger in 2007-2008.¹⁴ The National Association of Broadcasters, which opposed the combination as “merger to monopoly,” advanced the theory that XM radio had raised (pre-merger) prices for its satellite radio service from \$9.95 to \$12.95 and yet “subscriber growth continued at such a rapid pace [after] the price increase” that the evidence was said to “underscore the low elasticity of demand faced by” satellite radio providers – the “Inverse Cellophane Fallacy.”¹⁵

Conclusion

The case *FTC v. Facebook* is expected to go to trial in 2023 or 2024. It is a substantial undertaking for the Government, one of the biggest monopolization cases of the past quarter century. It will feature the prosecution appealing to evidence about inelastic responses to price increases by a purported monopolist. Du Pont won with its presentation on the Cellophane Fallacy. Will the FTC?

¹² Plaintiff Federal Trade Commission’s Memorandum of Law in Opposition to Defendant Facebook, Inc.’s Motion to Dismiss Amended Complaint (Nov. 17, 2021), p. 12. The passage quotes the FTC.

¹³ *Ibid.*, Par. 205.

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