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User Interaction with Digital Platforms: A Consumer Protection Perspective

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Main Text
Figures 1 to 3

Abstract

The rapid growth of digital platforms has transformed how consumers interact with the marketplace and led to new challenges for consumer protection authorities. This Perspective highlights how the Federal Trade Commission's Bureau of Economics has applied behavioral and experimental economics in support of consumer protection policy in digital markets. We discuss two empirical studies that examine how platform design choices shape consumer behavior. The first study investigates how the presentation of advertising content affects user recognition and engagement and finds that more prominent disclosures enhance ad recognition and decrease time spent viewing ads. The second study evaluates a major redesign of the FTC's consumer complaint website by using the launch of the new website as a natural experiment. The study finds that the redesign led to a significant increase in complaints due to higher complaint completion rates. We conclude by discussing ongoing efforts to expand the role of behavioral research at the FTC.

Significance Statement

As digital platforms increasingly shape consumer experiences, understanding how design influences user behavior is important for effective consumer protection. This research shows how behavioral insights and economic methods can be applied to improve regulatory tools and better understand emerging consumer risks. Eye-tracking experiments reveal that more prominent ad disclosures increase recognition and reduce unintended engagement. A large-scale redesign of the FTC's complaint website led to more completed and informative submissions, including from users reporting harms without financial loss. These findings demonstrate how integrating behavioral science into policy design can enhance consumer understanding, increase engagement, and strengthen consumer protection enforcement in a rapidly evolving digital economy.

Main Text

Introduction

The mission of the Federal Trade Commission (FTC) is to protect consumers and promote competition. Alongside its law enforcement activities, the FTC relies on research as a critical tool for accomplishing its mandate. From its founding statute, the FTC has had an explicit research mandate; Section 6 of the FTC Act empowers the FTC to conduct studies without an explicit law enforcement purpose, to ask corporations for information to inform such reports, and to make public information that it learns.

The Bureau of Economics (BE) is the main division within the FTC conducting research. Economists in BE have a long history of conducting industry studies, with the most recent such study examining physician consolidation (1). Over the years, economics research at the FTC has ranged widely from collecting unique data on the business lines of major manufacturing firms (2, 3), to surveying consumers on fraud victimization (4), to conducting over a fifth of all published merger retrospectives examining the effects of consummated mergers (5).

Behavioral economics has long been a foundational component of BE's consumer protection research. From early work evaluating how consumers interpret health-related advertising claims (6) to experimental studies on mortgage disclosures (7), BE has consistently applied behavioral insights to understand and improve consumer decision-making. For example, findings presented at the FTC's 2007 Behavioral Economics Conference informed enforcement strategies and

helped guide federal improvements to mortgage disclosure forms based on consumer testing.[1] These efforts illustrate how BE has historically leveraged behavioral economics to design more effective, evidence-based policies grounded in real-world consumer behavior.

A major concern for the FTC today is the practices of large online platforms. On the competition side, the FTC has sued both Meta and Amazon for violations of the antitrust laws, while its counterparts at the Department of Justice are in court against Google and Apple. On consumer protection, the FTC has recently brought enforcement actions against Amazon and Uber alleging that both companies have deceptively enrolled consumers into subscription programs and made it difficult for them to cancel their memberships. The FTC also recently issued several regulations related to online platforms, including the Fake Reviews Rule to prevent review manipulation, the Unfair and Deceptive Fees Rule to prevent drip or partitioned pricing in live event ticketing and short-term lodging, and updates to the Negative Option Rule to make it easier for consumers to cancel subscriptions.[2]

In this article, we show how social and behavioral research can inform policy on digital markets, focusing on how consumers interact with platforms online. We first discuss two examples of such research: a laboratory experiment designed to assess how improved disclosures of advertisements online affected user behavior and recognition of ads, and a "natural experiment" redesigning the FTC's website to report fraud. We then discuss ways to further expand the FTC's use of social and behavioral research to accomplish its mission of protecting consumers.

1. Lab Experiments: Ad Disclosure Study

Lab experiments have become an increasingly common tool in economics (8). Several BE economists have backgrounds in behavioral economics, with experimental research spanning topics such as consumer susceptibility to fraudulent marketing practices (9), deceptive language (10), incentive structure in experimental design (11), and the complexity of both disclosures (12) and cooperative strategies (13, 14). Additional areas of study include rational inattention (15), time preferences (16), learning in consumer search (17), the relationship between obesity and impatience (18), and cognitive biases such as anchoring in professional decision-making (19).

In this section, we discuss how the FTC used a lab experiment to evaluate the effectiveness of improving online advertising disclosures. Advertising is the main way that many digital platforms – including social media and online search websites – earn money. Legally, such websites have to tell consumers when content is advertising. However, platforms may have incentives to "pool" organic content and advertising by making disclosures less salient if consumers value organic content, but the platform earns revenue on advertising (20).

The FTC's study (21, 22) examined two types of advertising – ads on online search engines and "native ads" designed to look like organic content on news websites – and sought to answer three questions. First, how well could consumers recognize ads online? Second, did improved disclosures increase ad recognition? Third, did improved disclosures affect user behavior?

1.1 Study Design

To answer these questions, the FTC developed eight scenarios modeled on real websites – four featuring search ads and four featuring native ads, with each ad type represented on both desktop and mobile platforms. The search ad scenarios used Google and Bing on both desktop

[1] See https://www.ftc.gov/sites/default/files/documents/reports/summary-report-ftc-behavioral-economics-conference/070914mulhollandrpt.pdf for more details.

[2] On July 8, 2025, the U.S. Court of Appeals for the Eighth Circuit vacated the Negative Option Final Rule amendments. See https://ecf.ca8.uscourts.gov/opndir/25/07/243137P.pdf for more details.

and mobile devices, while the native ad scenarios drew from Gear Patrol and Yahoo on desktop computers, and the Chicago Tribune and Time magazine on mobile phones.

The FTC then worked with usability experts to modify each website to improve ad disclosures to ensure that consumers noticed them. The improved disclosures were designed to appear where consumers could easily notice and understand them, use clear and consistent terms like "ad", provide sufficient contrast with the background, employ visual cues like borders, and have a font size that consumers could read.

Figure 1 provides an example of the modifications for the Google Desktop scenario, with the original website on the left and the modified website on the right. The modifications are relatively modest. First, a border is placed around the Google Shopping Box, its ad label is moved from the top right to the top left, and its ad label uses “Ads” rather than “Sponsored”. Second, the text and background color of the ad labels is changed from white-on-yellow to black-on-orange.

The FTC randomized the treatment of improved disclosures using a mixed within and between subjects design. Each of the 48 participants in the experiment was shown all eight scenarios, but both the treatment and the order of the scenarios were randomized across participants.

The study was conducted in an eye tracking lab in which a moderator guided participants through each scenario. In the Google Desktop scenario shown in Figure 1, for instance, participants were instructed to imagine they were shopping for a tablet and to search for one on Google while thinking aloud. The moderator followed up with probing questions about the participant’s search process and reactions to specific elements on the page, including advertisements. Participants were also asked to click on items of interest, both ads of interest and decoys, to better understand their decision-making and attention patterns.

1.2 Study Results

The study examined two key outcomes. First, an expert consultant reviewed video recordings of the experiment and coded participants' responses as recognizing the content as an ad, not recognizing it as an ad, or that it was unclear.[3] Using a multinomial logit model, the FTC estimated that the design modifications increased the probability of ad recognition by 21 percentage points. Given a baseline recognition rate of 47% for unmodified websites, the improved disclosures led to a 45% relative increase in ad recognition.

Second, eye-tracking data measured how long participants viewed each ad condition to examine changes in user behavior. The FTC used a Poisson regression model to estimate the effect of the improved disclosures on viewing time and found they led participants to spend 21% less time looking at the advertisements. Both the improvements in ad recognition and reductions in ad viewing time were consistent across desktop and mobile conditions, as well as across search and native ad formats.[4]

The findings from this study provided quantitative evidence for the benefits of the FTC’s broader efforts to promote transparency in digital advertising, including an earlier policy statement on

[3] The ad recognition effects were robust to using an alternate coding scheme by FTC paralegals to determine ad recognition.

[4] For native ad conditions, the entire increase in ad recognition was from a reduction in ads categorized as not an ad. For search conditions, three-quarters of the effect was from a reduction in ads categorized as unclear and one-quarter as not an ad.

deceptively formatted advertisements and accompanying business guide on native advertising.[5] More broadly, the results highlighted the importance of behavioral evidence in shaping interventions aimed at protecting consumers in digital environments.

2. Natural Experiments: The FTC ReportFraud Website Redesign

Economists at the FTC more commonly rely on natural experiments (23) than laboratory experiments in their research. In natural experiments, treatment is not randomly assigned by researchers but instead arises from policy changes, allowing researchers to evaluate the effects of interventions in real-world contexts.

For example, in the Suntasia case, the FTC sued a firm for allegedly enrolling consumers in fraudulent subscriptions. A judge created a natural experiment by assigning consumers to different cancellation conditions based on their enrollment date: some had to actively cancel to avoid continued charges, while others were automatically unsubscribed unless they affirmatively chose to continue. Economists in BE used this natural experiment to show that consumer decisions were highly sensitive to the default, with much higher cancellation rates when opting out was the default (24).

In this section, we discuss a study of the FTC's redesign of its main complaint website (25). Consumer complaints are perhaps the most important way that the FTC learns about emerging problems in the marketplace; the FTC directly received 1.5 million complaints on fraud and other issues in 2024.[6] Information from such complaints can be used to educate consumers about how scams operate through news stories and blogposts (26) and to provide evidence in court against wrongdoers. In addition, the rich data on complaints has been used to profile the victims of fraud (27, 28), learn about the effects of increased privacy protections (29), determine which countries produce cross-border fraud (30), and examine how fraud responds to economic shocks (31).

However, such complaints provide the "tip of the iceberg" on fraud because most victims of fraud and other deceptive business practices do not complain to the government. FTC victimization surveys have found that less than 5 percent of victims complain to government sources or the Better Business Bureaus (32). Comparing victims and complaints on the same FTC enforcement actions, overall complaint rates were very low – one scam had 1,400 complaints and 2 million victims – and victims in majority Black and Hispanic areas were much less likely to complain than others (33, 34).

2.1 Study Design

To encourage more complaints, the FTC undertook a major redesign of its complaint website. Focus group participants noted two key shortcomings of the old website, FTC Complaint Assistant, whose landing page is depicted in the left figure in Figure 2. First, users reported feeling disconnected from the FTC and questioned the value of submitting a complaint, especially given that the agency could not guarantee monetary recovery for victims. Second, the site's user

[5] See https://www.ftc.gov/system/files/documents/public_statements/896923/151222deceptiveenforcement.pdf and https://www.ftc.gov/business-guidance/resources/native-advertising-guide-businesses .

[6] The FTC also runs the Consumer Sentinel Network, which receives complaints on consumer protection topics from several contributors including the Better Business Bureaus (BBB) and Consumer Financial Protection Bureau (CFPB). See https://www.ftc.gov/enforcement/consumer-sentinel-network for more details on the Consumer Sentinel Network. The Consumer Sentinel Network received 6.5 million complaints in 2024.

interface left much to be desired: the visual design was visually cluttered and difficult to navigate, it was difficult to accurately categorize complaints, and the complaint flow required progressing through seven separate screens to complete.

The new website -- ReportFraud.ftc.gov – was designed to address these concerns; the new landing page is the right figure in Figure 2. First, the new website emphasized the pro-social benefits of filing a complaint, with a tagline of "Report to help fight fraud!" and an emphasis on how reporting would protect communities, including a graphic of a stylized community and a shield representing the prophylactic effects of complaining. Second, the new user interface had a much clearer visual design, a simpler way to categorize complaints, and a much shorter flow to complain.

Major digital platforms have built testing systems that enable them to routinely conduct randomized trials that evaluate website design changes. While the FTC gathered feedback on its original website and potential redesigns through focus groups, it did not conduct a randomized trial of the new site. Instead, the agency launched the redesigned website while simultaneously retiring the old version. This abrupt transition created a natural application of a regression discontinuity research design (23, 35), in which any immediate shifts in outcomes would be attributed to the redesign. The assumption required for causality is that there were no other discontinuous changes, such as in fraud incidence or reporting behavior, coinciding with the launch date.

2.2 Study Results

Figure 3 depicts the regression discontinuity estimates for four different complaint sources: the FTC mobile website (top left), the FTC desktop website (top right), the FTC Call Center (bottom left), and the Consumer Financial Protection Bureau (CFPB) and Better Business Bureaus (BBB) (bottom right). The website redesign should have affected complaints submitted to the FTC online or via mobile devices, but not those made by phone or to external complaint sources.

Each panel in Figure 3 shows the number of daily complaints by source for the 60 days before and after the website redesign, with all values expressed relative to the number of complaints on the day prior to the launch. The vertical line marks the date the new website went live. The econometric model allows for separate linear trends before and after the launch, shown as solid lines. The vertical gap at the discontinuity represents the estimated effect of the redesign on complaint volume.

The estimates shown in Figure 3 imply a 26% increase in mobile complaints and a 31% increase in desktop complaints with the website redesign, both of which are statistically significantly different from zero. The figures clearly show that the effect appears immediately following the launch of the new website. By contrast, call center complaints declined by 9%, although the change was not statistically significant, and no meaningful shifts were seen in complaints submitted to the CFPB or BBB. The number of visitors to the FTC's complaint website remained steady after the redesign, indicating that the rise in complaints was driven by website users being more likely to file a complaint.

Beyond the massive increase in complaints, consumers provided more information in their complaints on topics useful to policymakers. For all desktop and mobile complaints, the share of consumers reporting their zip code rose by 9%, their age by 13%, and the company or individual that defrauded them by 6% after the redesign. Thus, the "quality" as well as "quantity" of complaints increased with the redesign.

The consumers induced to complain by the redesign were different from existing users. They wrote less and employed a simpler writing style. They were more likely to complain about

telemarketing and imposter scams and less likely to complain about scam texts and emails, using either the category of their complaint or topic modeling of complaint text (36). Finally, they were less likely to use payment related terms such as purchase, order, money, and payment.

3. Future Research

While the previous sections illustrate how behavioral research can inform consumer policy, conducting such research within government remains more challenging than in academic settings. This section outlines several initiatives aimed at lowering barriers to research at the FTC and highlights how access to novel data sources and agency-specific authorities creates unique opportunities for behavioral research.

Field Experiments Field experiments, in which treatment assignment is randomized across individuals in naturally occurring settings rather than a laboratory, are increasingly common in economics (37, 38, 39). As a law enforcer, it can be challenging for the FTC to work with companies to conduct field experiments. However, the FTC can learn about the experiments that firms have conducted as part of an investigation or research study. For example, the FTC cited internal Amazon experiments that tested providing consumers more and better information at signup as evidence that Amazon was deceptively enrolling consumers into Prime.[7]

While field experiments can uncover critical evidence in investigations by capturing firm behavior in real-world contexts, in-house experiments offer a practical way to gain insight into broader decision-making processes that shape day-to-day enforcement strategies. Most economics lab experiments rely on undergraduates or online gig economy workers on platforms like Amazon Mechanical Turk or Prolific, which may be appropriate subject pools for some questions but may not reflect how trained professionals behave in strategic or regulatory contexts. Our access to a unique pool of legal professionals within the FTC offers a valuable opportunity to study real-world decision-making, and should yield insights into how attorneys negotiate, assess risk, and respond to incentives.

Text Mining Beyond consumer complaints, the FTC receives enormous amounts of data in textual form, including company documents and emails and firm customer response management databases. In addition, user generated reviews on products are increasingly available online. Applying modern text mining methods to such data can find “hot documents” for evidence, assess how many consumers have issues related to a theory of harm, and inform enforcers on hard to measure dimensions of quality (40).

Two recent initiatives will facilitate the application of modern text mining techniques at the FTC. First, the agency has acquired a high-performance server equipped with a graphical processing unit (GPU), which significantly accelerates AI-related tasks including natural language processing. Second, the FTC recently obtained a Technology Modernization Fund (TMF) grant to support the development of a cloud-based analytics platform, which will enable researchers to efficiently access and analyze large-scale datasets.[8]

Victim Data As part of its investigations, the FTC routinely collects information about individuals affected by fraud to provide redress to affected consumers. Beyond its enforcement role, victim data can support several types of research. Researchers can use victim data to identify demographic and behavioral patterns across different types of fraud, helping to reveal trends and common characteristics among those affected (41, 42). When contacting consumers to distribute

[7] See https://www.ftc.gov/system/files/ftc_gov/pdf/2023-09-20-067-AmendedComplaint%28redacted%29.pdf for more details.

[8] See https://www.ftc.gov/news-events/news/press-releases/2025/07/ftc-awarded-grant-upgrade-its-data-processing-capabilities-needed-analyze-data-used-investigations for more details.

redress, the FTC has an opportunity to test the efficacy of educational materials aimed at preventing repeat victimization.

When paired with complaint data, victim records can help estimate the extent of underreporting in consumer fraud. For example, the FTC's 2024 Older Adults Report draws on comparisons between complaint volumes and independent victim data in cases (33) to estimate the true scale of marketplace harm. While reported losses in 2023 totaled $10.3 billion, extrapolations based on underreporting rates suggest that actual losses may have ranged from $20.5 billion to as high as $158.3 billion (43).

Generic PRA Clearance A major barrier to conducting experiments at the FTC is the requirement under the Paperwork Reduction Act (PRA) to seek public comment and obtain approval from the Office of Management and Budget (OMB) before collecting information from the public. To address this, the FTC's Bureau of Economics has proposed a generic clearance for voluntary surveys, interviews, and experiments related to its consumer protection and competition missions (44). This clearance would streamline the approval process for low-burden studies, and thus enable researchers to conduct behavioral research faster.

Official 6b Studies As noted earlier, Section 6(b) of the FTC Act authorizes the Commission to compel companies to provide detailed information for research purposes. In March 2023, the FTC exercised this authority by issuing Section 6(b) orders to eight major social media and video platforms, including Meta, YouTube, and TikTok, seeking information on their practices for detecting and preventing deceptive advertising. This study was undertaken in response to rising concerns about online fraud; in 2024 alone, consumers reported $1.8 billion in losses to the Consumer Sentinel Network stemming from fraud initiated through social media platforms.

The requests covered content moderation policies, procedures for identifying and removing deceptive or harmful ads, the disclosure of paid content, the role of algorithms and human review, and metrics on ad revenue and user exposure. By obtaining non-public, platform-level data across a range of advertising categories, the study offers a rare empirical window into how online platforms shape the digital advertising ecosystem and the extent to which they protect users from fraud and deception.

Conclusion

The FTC's Bureau of Economics is building on its long-standing tradition of applying behavioral economics to address emerging challenges in the digital marketplace. The studies highlighted in this article illustrate how interface design, such as ad disclosures and complaint submission processes, can significantly influence consumer comprehension and behavior. As digital platforms continue to evolve, empirical methods including text analysis, surveys, and both field and in-house experiments will be essential to craft evidence-based consumer protection policies. These tools will help ensure that consumer protection policy remains grounded in real-world consumer experiences in a rapidly evolving digital marketplace.

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Figures and Tables

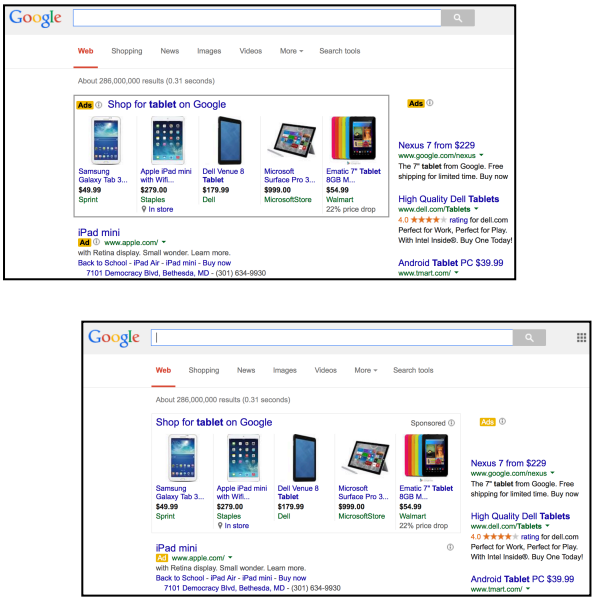

Figure 1. Original and Modified Websites: Google Desktop Scenario

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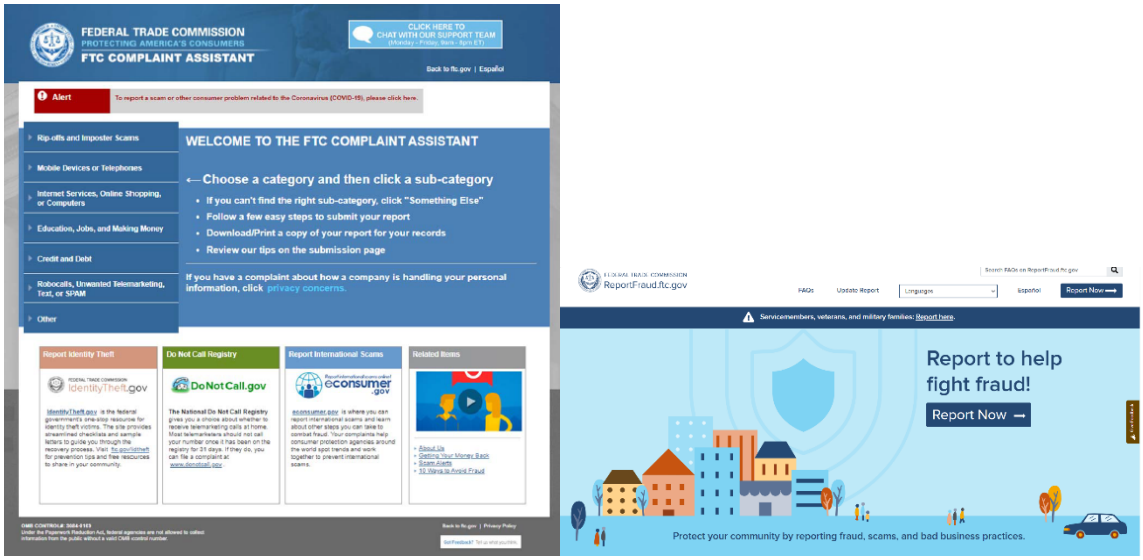

Figure 2. Old and New Websites: Landing Page

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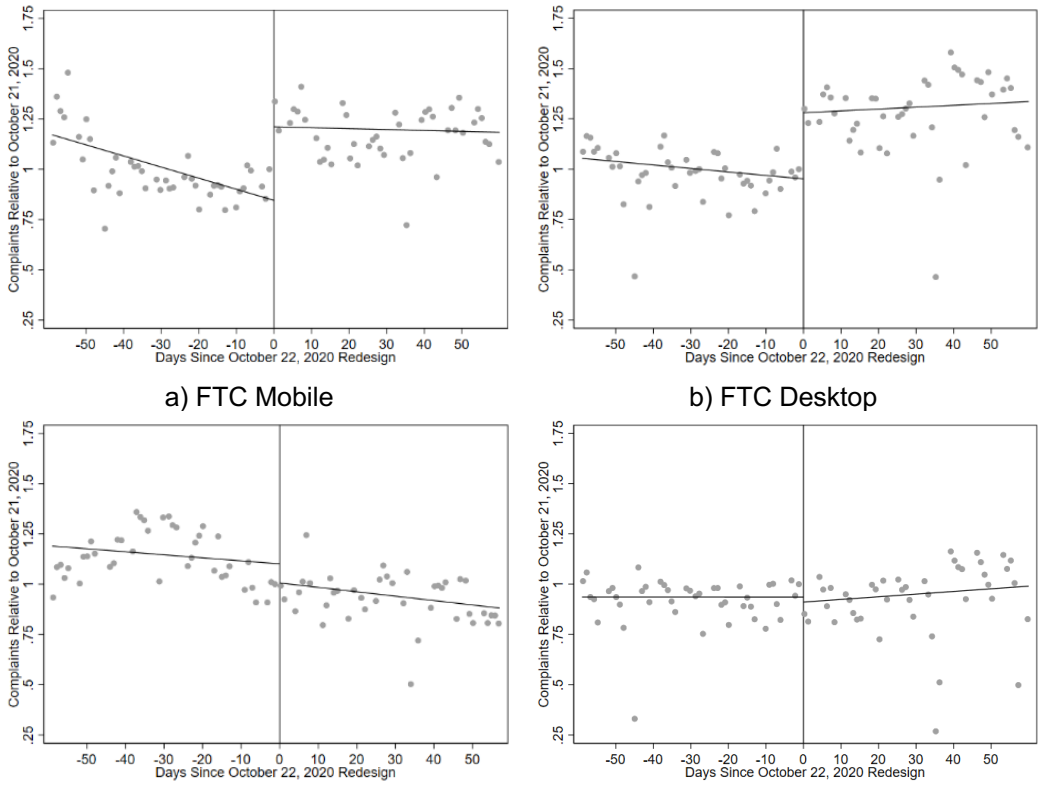

a) FTC Mobile b) FTC Desktop

c) FTC Call Center d) BBB & CFPB

Figure 3. Estimates of Website Redesign on Number of Complaints

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