

To File or Not to File: Stakeholder Claims After the Wells Fargo Enforcement Action

Syed Muhammad Ishraque Osman

Nicholas R. Pusateri

July 6, 2026

Public enforcement can do more than disclose misconduct. It can turn unresolved customer problems into formal claims routed to the firm. Using the September 2016 Wells Fargo enforcement action and CFPB complaints routed for response, we find that total complaints rose 70.6 percent and *Bank account or service* complaints rose 152.5 percent, beginning September 8, directly after the action. Complaints concentrate in products and issues named by regulators. Results are stable across comparison pools, timing and weighting windows, and donor-dependence checks. The evidence identifies claim production: enforcement moved customer problems into the firm's response, compliance, and supervisory systems.

Keywords: enforcement disclosure; stakeholder claims; financial intermediary misconduct; customer complaints; bank misconduct

JEL Codes: G21; G28; G38; D18; K42

Osman: Corresponding Author, *Email*: osmans2@sacredheart.edu; Jack Welch College of Business & Technology, Sacred Heart University; *Address*: 3135 Easton Tpk, Fairfield CT 06825-1081, USA. *Pusateri*: Jack Welch College of Business & Technology, Sacred Heart University.

1. Introduction

Public enforcement against a financial intermediary is often studied through market reactions, penalties, and reputation. We study a different margin: the formal customer claims the firm must answer once a regulator documents its misconduct. When a federal agency establishes that a bank mishandled its customers' accounts, that disclosure gives affected customers an official account of what happened, a category under which to read their own experience, and a venue through which to act. Private, ambiguous, or dormant customer problems can then become formal claims the firm must process.

The setting is banking, where ongoing customer relationships create a large stock of small contingent claims on the intermediary's conduct. An unexplained fee, an unfamiliar account, an unexpected transfer, or an unauthorized credit inquiry may be noticed and yet never escalated. Related consumer-finance evidence shows that attention, salience, and action costs shape whether consumers act on financial information and fees ([Adams et al. 2021](#); [Agarwal et al. 2015](#); [Shy and Stavins 2024](#)). A customer must first recognize the experience as a grievance rather than an error, then classify it into a product and an issue, name the firm, and submit the complaint to a regulator that can route it back. A central constraint is classification. Even when a customer notices an account event, she may not know whether it is an error, a routine fee, her own misunderstanding, or misconduct that can be filed as a complaint. Public enforcement relaxes exactly that constraint. By documenting the conduct, it supplies the missing public category and, at the same time, raises the expected payoff to filing through penalties, restitution, and an active remediation process. We call the resulting conversion of an unfiled customer problem into a formal complaint *claim production*.

We measure this margin with the Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database ([Consumer Financial Protection Bureau 2026](#)). The records are well matched to the question because each complaint is a named, consumer-initiated filing in which the consumer identifies the company, classifies the product and issue, and submits the complaint to the Bureau, which forwards it to the firm for a required response. Each filing enters a public administrative record and the firm's own response process at the same time. The timing and composition of those routed filings show when customer grievances become claims the intermediary must answer. [Ayres, Lingwall, and Steinway \(2014\)](#) show that firms differ in how quickly they respond to complaints and in how often consumers dispute those responses, reinforcing that the records capture variation in routed firm responses.

The September 8, 2016 Wells Fargo enforcement disclosure offers a sharp setting in which to observe this margin. On that date the CFPB and the Office of the Comptroller of the

Currency announced coordinated federal consent orders documenting deposit accounts, credit-card applications, transfers, and fees that employees had opened or charged without customer authorization ([Consumer Financial Protection Bureau 2016a](#)). The orders carried monetary penalties and restitution. The disclosure was official, dated, national, and tied to ordinary retail products that millions of customers held—concrete enough to recognize in one’s own statement—and it arrived through the same federal regulator whose complaint venue we observe. The event thus combined documented misconduct, unresolved customer problems, and a routable complaint channel.

The setting gives the claim-production interpretation three ways to fail. If filing was only a slow buildup of dissatisfaction, the break should not sit on September 8. If customers did not use the enforcement record to classify their own experiences, the added complaints should not concentrate in bank accounts, account opening, or account control. If the spike came from a mechanical source, it should show up in referrals, repeated text, duplicate records, or high-branch-share locations rather than broad direct filing.

We estimate the response on a parent-organization panel of large depository institutions supervised by the CFPB. The primary design is a synthetic difference-in-differences estimator that compares Wells Fargo’s post-disclosure complaint path with a weighted counterfactual built from institutions whose pre-disclosure paths resemble its own ([Arkhangelsky et al. 2021](#)). Daily and weekly specifications locate the timing of the break; monthly specifications measure the post-disclosure claim flow; and product- and issue-level designs test whether the added filings fall where the enforcement record predicts. Because the design has a single treated firm, inference rests on placebo reassignment—relabeling each control institution as treated and ranking Wells Fargo against the resulting distribution—supported by alternative donor pools, an unweighted benchmark, and timing variants.

The response is immediate and large. In the short post-disclosure window, total complaints routed to Wells Fargo for company response rise by 547.7 per month, a 70.6% increase over the bank’s pre-period mean. Complaints in *Bank account or service*—the category most closely tied to the deposit-account misconduct—rise by 265.9 per month, a 152.5% increase over their pre-period mean. The break is sharp at the announcement date. In daily and weekly event windows the increase begins on September 8 and ranks first among reassigned-control placebo estimates, and the seven-day jump in the Wells Fargo-minus-control complaint gap ranks first among 150 candidate dates. This timing is difficult to reconcile with a gradual drift in dissatisfaction or with a pre-disclosure buildup that triggered the enforcement action.

Two comparisons tie the response to the federal enforcement bundle rather than to publicity about the conduct alone. Earlier public signals—including the 2013 *Los Angeles Times*

investigation and the 2015 Los Angeles City Attorney suit—did not generate a comparable differential increase in Wells Fargo bank-account complaints. Later high-coverage events, including the September 20 Senate hearing and the October 12 Chief Executive Officer resignation, also do not reproduce the September 8 break. The distinctive event is the federal consent-order bundle: official findings, penalties, restitution, national coverage, and a complaint venue tied to the same regulator. This distinction matters because public bank enforcement announcements do not mechanically trigger depositor discipline (Gilbert and Vaughan 2001).

Bank-account complaints carry the response. *Bank account or service* absorbs 50.2% of the total Wells Fargo increase, gains 11.7 percentage points of product share, and remains elevated in the long window at 82.0% above its pre-period mean. The same concentration appears one level down. Within bank-account complaints, the issue *account opening, closing, or management* increases by 211.8% over its pre-period mean in the short-window specification, gains 10.4 percentage points of within-product issue share, and ranks first among placebo reassignments. That single issue cell accounts for 29.1% of Wells Fargo's entire complaint increase. Mortgage complaints also rise in the short run, a broad-attention component that fades while the account-service response persists. The pattern is not a wholly diffuse attention shock. The durable added filings fall in the product and issue customers could connect to the documented conduct.

The filing-mechanism tests point to direct customer filing. Web submission rises relative to controls while referral filing falls, near-duplicate published narratives are rare and predate the disclosure, and the increase is national rather than concentrated in Wells Fargo's high-branch-share states. The added complaints look like many customers independently using the CFPB channel after the federal orders.

Public enforcement also changes the firm's internal claims environment. A CFPB complaint is a named filing routed to the company, not an anonymous expression of dissatisfaction or a passive database entry. The added filings do not stop at the public record. They require intake, customer and product matching, record retrieval, assignment for review, written response, disposition coding, and closure in a form that can be reviewed later. Customer problems move from private account histories into response, control, risk-management, and supervisory systems. This firm-facing channel connects to work showing that misconduct, enforcement, and consumer-facing failures can impose legal costs, reputational sanctions, monitoring demands, operational-risk losses, and labor-market discipline (Karpoff, Lee, and Martin 2008; Arena and Julio 2015; Pagano and Immordino 2012; Armour, Mayer, and Polo 2017; Curti and Mihov 2025; Frame, McLemore, and Mihov 2025; Egan, Matvos, and Seru 2019).

We also speak to the growing use of consumer complaint data in empirical finance and banking. Recent work uses these records to study a wide range of topics.¹ Our evidence adds a caution: complaint records are observations of consumer problems and outcomes of a claim-production process that shapes which problems become formal filings. That reading connects the consumer-finance literature on household information, disclosure, and voice (Campbell et al. 2011; Bertrand and Morse 2011; Stango and Zinman 2014; Hayes, Jiang, and Pan 2021; Dou and Roh 2024) to a firm-facing claims process.

The broader lesson concerns what a complaint count is. Where documented misconduct, unresolved customer problems, and a routable complaint venue coincide, public enforcement moves private grievances into the formal, firm-facing claims the intermediary must answer. Complaint counts are not fixed gauges of unresolved customer problems; they are realized claims whose production depends on the public information environment surrounding the firm.

2. Complaint Data and Panel Construction

We measure formal customer claims with the CFPB Consumer Complaint Database, a public registry of complaints submitted to the Bureau about consumer financial products and services (Consumer Financial Protection Bureau 2026). The data match the paper's filing margin. Each record is a consumer-initiated complaint against a named company. The consumer identifies the institution, classifies the complaint by product and issue, and submits it to the Bureau, which routes it to the firm for company response. A complaint is at once a public administrative record and a firm-facing claim. That routing is part of the same institutional setting as the enforcement action: the CFPB was one of the federal regulators that issued the Wells Fargo orders and also operated the channel through which the resulting claims were filed.

The timing variable is the CFPB's *Date received* field, which records when the complaint entered the Bureau rather than when the firm responded. It therefore measures the customer's filing decision rather than the firm's later handling of the case. Monthly specifications aggregate complaints to calendar months; exact-timing tests use the same field at daily and weekly frequency. The main analysis window runs from April 2015 through March 2017. It contains the September 8, 2016 enforcement disclosure, provides a pre-disclosure history for fitting counterfactual complaint paths, and ends before the CFPB's April 24, 2017 complaint-form changes reorganized several product and sub-product cate-

¹Examples include, among others, Bhattacharya (2023) on complaint disclosure and bank and investor responses, Dou et al. (2024) on peer learning by rival lenders, Jou et al. (2026) on depositor discipline, and Haendler and Heimer (2025) on restitution and hidden consumer costs.

gories ([Consumer Financial Protection Bureau 2017](#)). The primary monthly analysis panel contains Wells Fargo and 75 comparison parent organizations over this 24-month window, giving 1,824 parent-month observations and 133,631 complaints.

The unit of observation is the parent organization. CFPB complaints are filed against company names, and large banking organizations may appear in the database through subsidiaries, affiliates, or standardized company labels. We consolidate company names to parent organizations before aggregation. Wells Fargo is the treated parent organization; in the analysis window its complaints appear under a single standardized company name, which the crosswalk links to the Wells Fargo parent.² The parent level is the relevant firm unit because complaints routed to subsidiaries or affiliates still enter the banking organization's response, compliance, and supervisory environment.

The product and issue fields locate every complaint within the CFPB taxonomy. The main product category is *Bank account or service*, the legacy CFPB category covering checking, savings, and account-management complaints during the sample period, and the category most directly connected to the deposit-account conduct documented in the Wells Fargo orders. We also examine *Credit card*, which the enforcement record names, and *Mortgage*, which captures broader Wells Fargo complaint responses outside the directly implicated products. Issue-level tests use structured CFPB fields recorded for every complaint, so the composition results cover the full filing population. We use published narratives only for duplicate-text tests, where the question is whether repeated language indicates templated filing; narrative text does not classify complaints. Submission-route fields support the filing-mechanism tests.

The primary comparison pool is defined before the event. We use “large” in the CFPB supervisory sense: banks and thrifts above the statutory large-depository threshold of \$10 billion in assets, plus supervised affiliates, on the CFPB supervised-institution list as of June 30, 2016, about ten weeks before the Wells Fargo disclosure ([Consumer Financial Protection Bureau 2016b](#)). The analysis pool keeps the bank and thrift parent organizations from that pre-disclosure list after matching institution names to parent organizations. The pool is chosen outside the complaint outcomes, fixed using information available before treatment, and composed of institutions that share the same federal complaint venue and consumer-finance regulator as Wells Fargo. It contains 76 parent organizations including Wells Fargo, leaving 75 controls. For robustness we also estimate the main specifications on two narrower peer sets: U.S. global systemically important banks and the 2015 Federal Reserve stress-test organizations. Parent-bank identifiers and balance-sheet variables used to construct these pools come from 2016:Q2 regulatory filings ([Federal Deposit Insurance](#)

²The appendix describes the parent-organization crosswalk and duplicate-record treatment. Removing exact duplicates leaves the main estimates nearly unchanged.

Corporation 2026; Federal Financial Institutions Examination Council 2026). Appendix Table A.3 reports the full pool definitions and comparison institutions.

Complaint counts are the paper's main outcome because each filed complaint is a routed claim entering the firm's response process. The level measures how many formal claims arrive at the intermediary; percent-of-pre-period-mean effects put that arrival rate on a comparable scale across outcomes and institutions. Rates and logs answer a different scaling question. This realized-flow measure records customer problems that crossed the filing threshold, named the firm, and entered the CFPB's routing system for company response.

3. Empirical Strategy

The empirical strategy builds one inference chain around claim production. It first asks whether the filing response begins at the federal enforcement disclosure rather than before the event or at later high-coverage moments. It then estimates the size of the firm-level claim shock by comparing Wells Fargo with a pre-fit counterfactual path. The product, issue, and visibility-gradient tests ask whether the additional claims appear where the enforcement record made customer problems easier to classify and file. Finally, filing-channel, duplicate-text, and geographic tests ask whether the increase reflects broad customer use of the CFPB channel rather than a referral campaign, repeated records, or a local remediation episode.

3.1. Treatment Timing and Outcomes

The treatment event is the September 8, 2016 federal enforcement disclosure by the CFPB and the Office of the Comptroller of the Currency. Let Y_{it} denote a complaint outcome for parent organization i in period t , and let WFC_i equal one for Wells Fargo. In monthly specifications, $Post_t$ begins in September 2016. September is treated as post because the disclosure occurred on September 8 and most of the month followed the announcement. Exact-date specifications instead use daily or weekly periods and set $Post_t$ equal to one for days or weeks on or after September 8. A September-exclusion sensitivity test drops the mixed month from the monthly design.

The preferred short-window monthly design compares June–August 2016 with September–November 2016. The window is local to the event and limits exposure to later governance and attention events. The long-window design uses the full April 2015–March 2017 panel and measures persistence. Daily and weekly designs use the same CFPB filing date at higher frequency to test whether the break occurs at the enforcement disclosure itself.

The September 8 disclosure was surrounded by other public events involving Wells Fargo. Earlier information included the 2013 *Los Angeles Times* investigation and the 2015 Los Angeles City Attorney lawsuit. Later attention events included the September 20 Senate hearing and the October 12 Chief Executive Officer resignation. These events are timing contrasts, not alternative treatment dates in the main design. If complaints rose because of general attention to Wells Fargo, other high-coverage dates should produce comparable breaks. If complaints rose because federal enforcement made account misconduct formally actionable in the CFPB venue, the break should be centered on September 8.

3.2. Synthetic Difference-in-Differences

The main counterfactual design is SDiD (Arkhangelsky et al. 2021). SDiD compares Wells Fargo’s post-disclosure complaint path with a weighted path built from CFPB-supervised comparison institutions whose pre-disclosure complaint paths resemble Wells Fargo’s. The comparison is not Wells Fargo against the raw average institution. It is Wells Fargo against a pre-fit counterfactual path drawn from institutions subject to the same federal complaint venue.

The estimating equation is

$$(\hat{\tau}^{\text{SDiD}}, \hat{\eta}, \{\hat{\alpha}_i\}, \{\hat{\lambda}_t\}) = \arg \min_{\tau, \eta, \{\alpha_i\}, \{\lambda_t\}} \sum_i \sum_t \hat{\omega}_i \hat{\kappa}_t \times \left[Y_{it} - \eta - \alpha_i - \lambda_t - \tau(WFC_i \times Post_t) \right]^2. \quad (1)$$

The coefficient $\hat{\tau}^{\text{SDiD}}$ is the average post-disclosure gap between Wells Fargo and the weighted comparison path. The unit weights $\hat{\omega}_i$ place mass on donor institutions, and the time weights $\hat{\kappa}_t$ align the pre-disclosure periods and average over the post-disclosure window. Institution and time fixed effects absorb stable level differences and common time shocks.

SDiD fits this setting because Wells Fargo’s complaint level is above the convex hull of the donor institutions. A pure synthetic-control estimator would try to match levels that the donor pool cannot reproduce. SDiD instead uses the intercept and fixed effects to absorb stable level differences and uses donor weights to match changes in the complaint path before disclosure. The identifying comparison is whether the centered Wells Fargo-minus-control gap is stable before disclosure and breaks afterward.

The baseline short-window SDiD specification estimates donor weights from June–August 2016, the three months immediately before the sharp September 8 event. The long-window specification estimates weights using the full pre-disclosure history from April 2015

through August 2016. The short-window choice keeps donor selection local to the disclosure month, where the weighted path must track Wells Fargo immediately before the event, while leaving earlier pre-disclosure months available for validation. The robustness exercises vary the donor-weight estimation window and evaluate the June–August weights out of sample.

In addition to the monthly estimates above, we estimate daily and weekly effects. These exercises use the monthly SDiD donor weights rather than selecting a new donor pool at the daily or weekly frequency. This keeps the counterfactual anchored in the June–August pre-disclosure fit and uses the higher-frequency data only to locate the break around September 8. Event-date jump statistics use the same fixed donor weights, with bank-account-specific weights reported as a sensitivity.

3.3. Unweighted Benchmark, Exact Timing, and Pre-Trend Diagnostics

We also estimate an unweighted two-way fixed-effects difference-in-differences benchmark (Card and Krueger 1994). The benchmark regresses the complaint outcome on parent-organization fixed effects, time fixed effects, and the $WFC_i \times Post_t$ interaction. It asks whether Wells Fargo’s complaint path departs from the unweighted comparison path after the disclosure. SDiD is preferred because it constructs a pre-fit counterfactual path, but the unweighted benchmark provides a transparent comparison.

To locate the break, we estimate event-time versions of the benchmark and daily and weekly weighted timing specifications. The event-time regressions replace the single post interaction with interactions for periods relative to September 8, 2016. Pre-event coefficients test whether Wells Fargo was already diverging before the disclosure; post-event coefficients show whether the increase begins immediately. The daily and weekly specifications then apply the same counterfactual logic at the exact event date.

The timing evidence is interpreted together with pre-trend diagnostics. Following the logic of sensitivity analyses for event-study designs (Rambachan and Roth 2023), the relevant question is whether the pre-trend is exactly zero and, more important, whether extrapolating the observed pre-trend could explain the post-disclosure jump. In this setting, the centered pre-disclosure Wells Fargo-minus-control gap trends in the opposite direction from the post-disclosure increase. Extrapolating that trend forward would widen the measured post-disclosure effect rather than create it. The event-time plots describe timing, while SDiD estimates, pre-period fit diagnostics, and reassignment ranks provide the main counterfactual evidence.

3.4. Product, Issue, and Visibility-Gradient Tests

The product-level design tests where the added claims appear inside the CFPB taxonomy. The primary focal product is *Bank account or service*, the legacy CFPB category covering checking, savings, and account-management complaints. This is the category most directly connected to the deposit-account conduct documented in the Wells Fargo enforcement orders. We also estimate the same design for *Credit card*, which the enforcement record names, and *Mortgage*, which captures a broader Wells Fargo response outside the directly implicated account products.

For product p , parent organization i , and month t , the triple-difference specification is

$$Y_{ipt} = \alpha_{ip} + \lambda_{pt} + \mu_{it} + \theta_q(WFC_i \times Post_t \times F_p^{(q)}) + \varepsilon_{ipt}, \quad (2)$$

where $F_p^{(q)}$ equals one when product p is the focal product q . The fixed effects α_{ip} , λ_{pt} , and μ_{it} absorb institution-product differences, product-specific time shocks, and institution-specific time shocks. The coefficient θ_q is the excess post-disclosure Wells Fargo response in product q , measured in monthly complaints. It compares Wells Fargo's change in the focal product with Wells Fargo's change in other products, net of the same product contrast at comparison institutions.

The identifying condition for θ_q is that, absent the enforcement disclosure, Wells Fargo's focal-minus-nonfocal product gap would have evolved like the corresponding product gap at comparison institutions, after absorbing institution-product, product-time, and institution-time fixed effects. The DDD design uses comparison institutions to remove product-specific shocks and uses Wells Fargo's other products to remove firm-wide shocks. The remaining coefficient is informative when the focal product breaks away from both margins at the disclosure.

The baseline DDD specification pools all nonfocal CFPB products as the comparison category. For the bank-account focal specification, this pooled comparison is conservative because it includes credit-card and mortgage complaints, both of which also rise after the disclosure. Including upward-moving products in the comparison pool pushes the bank-account contrast toward zero. We report the pooled contrast and exclusion contrasts that remove other implicated products from the comparison category. These exclusion contrasts also matter when credit card or mortgage is focal because the dominant bank-account response would otherwise mechanically depress those focal-product estimates. A product-share decomposition complements the DDD estimates by asking how much of Wells Fargo's total complaint increase is absorbed by each product.

The same product estimates test the visibility-gradient prediction. Bank-account problems such as unfamiliar accounts, unexplained fees, and account-management events could look like internal bank errors until the federal orders supplied a misconduct category. Unauthorized credit-card applications were also named in the enforcement record, but they were more likely to generate pre-disclosure signals such as application notices, statements, credit inquiries, or credit-report entries. The *ex ante* prediction is a larger proportional response in *Bank account or service* than in *Credit card*. This ordering is not mechanical. Observed effects depend both on classification costs and on the mass of unresolved problems near the filing threshold.

Within credit cards, we use adjacent classification tests to interpret the muted aggregate card response. The identity-theft and fraud issue check asks whether card-related complaints rise in the category where already-visible unauthorized applications are most likely to be filed. The credit-reporting and other card-adjacent categories provide an additional check on whether card harms are being reclassified outside the headline credit-card product.

Issue-level tests use the CFPB's structured issue fields. Within *Bank account or service*, the main predicted issue is *account opening, closing, or management*, together with authorization and account-control concerns. We estimate SDiD and DiD specifications for the named product-issue cell, product-issue triple differences, and within-product issue-share changes. These tests ask whether the added complaints fall in the administrative issue categories that customers could map to the misconduct documented in the enforcement orders.

3.5. Filing-Mechanism and Scope Tests

The filing-mechanism tests ask whether the added formal claims look like broad use of the CFPB channel. The enforcement record predicts the products and issues that should become fileable. Filing-channel, duplicate-text, and geographic checks distinguish broad customer filing from more mechanical sources of complaint volume.

We examine three additional margins. First, submission-route fields distinguish Web filings from referral filings and other routes. Direct customer filing predicts a relative increase in ordinary direct submission channels, not a response concentrated in referrals. Second, duplicate-text tests use published complaint narratives to detect repeated template language. Narrative publication requires consumer consent, so these tests are used only to assess filing mechanics, not to classify the complaint population. Third, geographic tests ask whether the response is national or concentrated in high-branch-share states. A

national increase is more consistent with broad enforcement-linked customer filing than with a local remediation or solicitation episode.

3.6. One-Treated-Unit Inference

Because the design has one treated unit, inference is based on reassignment ranks rather than conventional large-sample approximations. We reassign treatment to each control institution, re-estimate the specification, and rank the absolute value of the Wells Fargo estimate against the absolute values of the placebo estimates (Conley and Taber 2011; Bertrand, Duflo, and Mullainathan 2004). With Wells Fargo and 75 controls, a rank-first result has rank value 1/76, the smallest value available in the full reassignment distribution. These rank values are finite-sample reassignment ranks, not model-based p-values.

The off-the-shelf SDiD variance estimators in Arkhangelsky et al. (2021) are not the main inferential object in this setting. Treated-unit jackknife and bootstrap procedures are not informative with a single treated unit, and synthetic-control placebo standard errors are best read as dispersion benchmarks rather than sampling p-values. We report parenthetical SDiD standard errors as synthetic-control dispersion benchmarks and use the full reassignment-rank distribution for inference.

We report ranks on two scales. Level ranks use complaint-count effects and compare Wells Fargo with all reassigned-control institutions. These are the primary ranks because the outcome of interest is the number of formal claims the firm must process. Percent-of-pre-period-mean ranks put effects on a proportional scale, but proportional comparisons can be dominated by institutions with very low baseline complaint volume. For those ranks, we use a size-matched comparison set consisting of controls with pre-period complaint volume at least 10 percent of Wells Fargo's. In the baseline size-matched comparisons, a rank-first effect has minimum rank value 1/14 for total complaints and 1/18 for bank-account complaints; the smaller denominators reflect the size-matched comparison sets, not weaker evidence. The rank-first proportional result is not specific to the 10-percent cutoff and holds for thresholds from 5 to 25 percent of Wells Fargo's pre-period volume.

For fixed-effect DiD and event-time regressions, parenthetical standard errors are clustered by parent organization. In a one-treated-institution design, those conventional standard errors do not provide the paper's inference, and serial correlation can overstate precision in difference-in-differences designs (Bertrand, Duflo, and Mullainathan 2004). Across estimators, the reassignment ranks are the main inferential object.

Because no single statistic is decisive in a one-treated-unit design, the evidence should be read as a hierarchy: the magnitude of the effect, the exact timing of the break at September 8, its finite-sample reassignment rank, the stability of that magnitude across weighting

windows and comparison pools, and the absence of dependence on any single donor. The results and robustness sections take these up in turn.

3.7. Control-Group Spillovers and Conservative Comparisons

The comparison group may itself respond to the Wells Fargo disclosure. If the scandal caused customers to file more complaints against other institutions, then same-direction spillovers to controls would attenuate Wells Fargo's estimated effect. This is the relevant concern in a national enforcement event. The control path may include some industrywide complaint activation rather than a pure no-treatment state. The robustness exercises test for related movements among large controls.

Spillovers to comparison institutions make the Wells Fargo-relative estimate conservative unless they are large enough and targeted enough to create the Wells Fargo spike mechanically. We assess this possibility in three ways. First, the timing tests compare the September 8 break with earlier public information and later attention events. Second, leave-out and alternative-pool specifications test whether the estimate is driven by particular exposed controls. Third, the product and issue tests locate the Wells Fargo response in the complaint categories predicted by the enforcement record. These checks do not require the control group to be unaffected by the national scandal. They ask whether the Wells Fargo response is unusually large, correctly timed, and located in the categories made actionable by the disclosure.

4. The Complaint Response to Public Enforcement

The complaint response is large and sharply timed. Wells Fargo's complaint path separates from the weighted control path in September 2016, with the largest effects in the products named by the enforcement record.

4.1. Magnitude of the Complaint Response

[Table 1](#) reports the main SDiD estimates. In the three months after the September 8, 2016 federal enforcement disclosure, Wells Fargo received 547.7 additional complaints per month relative to its weighted counterfactual path. That is a 70.6% increase over Wells Fargo's pre-disclosure monthly mean and the largest level effect in the reassignment distribution. The long-window estimate remains economically large at 299.0 additional complaints per month, or 37.5% of the pre-period mean.

The bank-account response is larger in proportional terms. Complaints in *Bank account or service* rise by 265.9 per month in the short window, a 152.5% increase over Wells Fargo’s pre-disclosure flow in that product. The long-window bank-account effect is 154.7 complaints per month, or 82.0% of the pre-period mean. Thus the product category most directly tied to the deposit-account conduct more than doubles after the enforcement disclosure and remains elevated beyond the immediate announcement window.

TABLE 1. SDiD estimates and level plus size-matched placebo ranks

Outcome	Window	Effect	% pre mean	Level rank value	Size-matched % rank value
Total complaints	Short	547.7	70.6	1/76 (0.013)	1/14 (0.071)
	Long	299.0	37.5	1/76 (0.013)	1/14 (0.071)
Bank account or service	Short	265.9	152.5	1/76 (0.013)	1/18 (0.056)
	Long	154.7	82.0	1/76 (0.013)	2/14 (0.143)

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

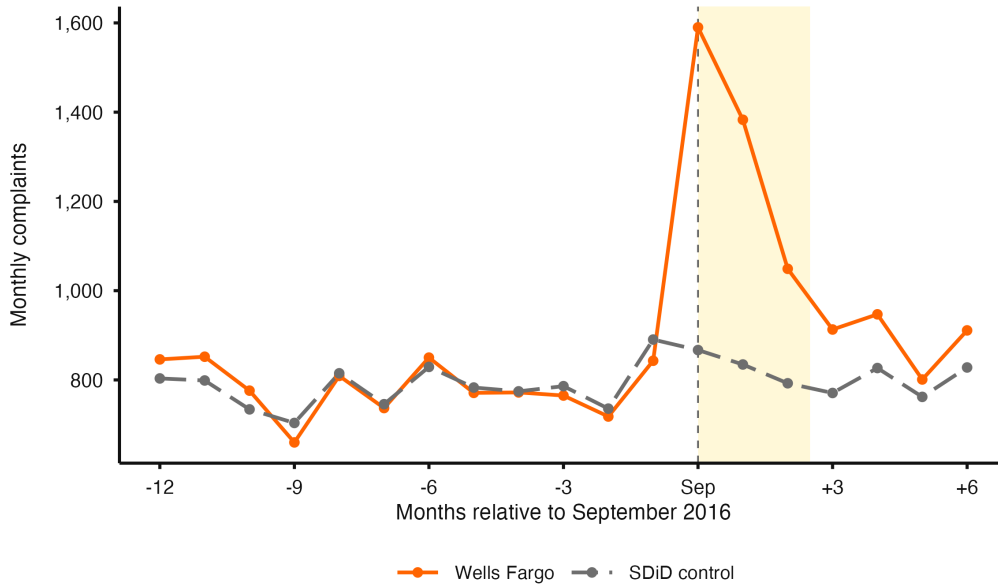
Note: Effects are monthly complaint counts for Wells Fargo relative to the SDiD control path; post begins September 2016. Short window is June–November 2016; long window is April 2015–March 2017. SDiD uses donor and time weights. % pre mean divides the effect by Wells Fargo’s pre-period mean. Level ranks reassign treatment to each CFPB-supervised control institution. Size-matched % ranks compare percent-of-pre-period-mean effects only among controls whose pre-period complaint volume in the same outcome and window is at least 10 percent of Wells Fargo’s. Appendix Table B.10 reports the short-window level and size-matched rank set; long-window level rank values are reported from the fixed-weight rank check in Table B.14. Long-window size-matched % ranks use the same 10 percent same-window scale rule. Each parenthetical decimal is a finite-sample reassignment rank value—Wells Fargo’s absolute rank divided by the number of units in the reassignment distribution, with rank 1 denoting the largest absolute effect—not a model-based p-value. The value 1/76 (0.013) is the smallest attainable when Wells Fargo is compared with the 75 reassigned controls; the smaller size-matched denominators (1/14, 1/18, and 2/14) reflect restricted proportional comparison sets, not weaker level effects.

Figures 1 and 2 show the underlying paths. The weighted control paths track Wells Fargo before September 2016 for both total complaints and *Bank account or service* complaints. At the disclosure, the series separate sharply. The post-disclosure gap is large in levels and proportional terms, and it is visible relative to ordinary month-to-month movement in the pre-period. Because Wells Fargo’s complaint level exceeds any convex combination of comparison institutions, each plotted SDiD control path is vertically aligned by the pre-period mean gap; the figures display the centered comparisons used by the estimator.

No single donor drives the magnitude. The weighted counterfactual draws on a donor set rather than a single comparison institution. The effective number of positive donors is 9.1 for total complaints and 12.5 for *Bank account or service* complaints. Leave-one-donor-out estimates stay within one percent of the baseline.³ Across alternative pre-disclosure weighting windows, total effects range from 513.2 to 555.4 complaints per month, and

³The ten largest donors hold 83.4 percent of short-window total-complaint weight and 73.3 percent of bank-account weight. The minimum jackknife effect is at least 99.2 percent of the baseline, and the worst placebo rank remains 2/76 or better (Tables B.2 and B.4).

FIGURE 1. SDiD counterfactual path for total complaints



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot Wells Fargo total complaints and the SDiD control path. The SDiD control path is vertically aligned to Wells Fargo’s pre-period mean gap over the plotted window. The dashed vertical line marks September 2016; the shaded band marks the short post-disclosure window. Tables 1 and B.8 report SDiD estimates and placebo-rank inference.

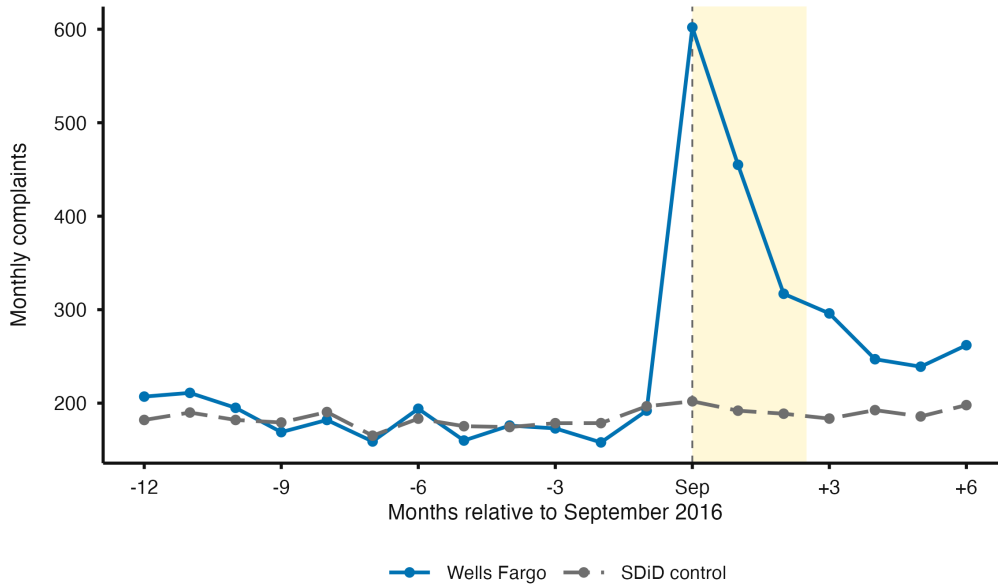
bank-account effects range from 256.4 to 268.2. Every weighting-window specification ranks Wells Fargo first in the 76-estimate level distribution.

The filing response is not specific to SDiD or to the baseline comparison pool. The un-weighted two-way fixed-effects DiD benchmark delivers the same formal-filing increase (Table B.13). Re-estimating the short-window SDiD specification on U.S. G-SIBs and 2015 Federal Reserve stress-test organizations leaves the total-complaint effect near 545–551 complaints per month and the bank-account effect near 266–272 complaints per month (Table B.20).

4.2. Exact Timing of the Break

The complaint increase begins at the enforcement disclosure. In the daily $[-7, +6]$ window around September 8, total complaints rise by 36.5 per day and *Bank account or service* complaints rise by 17.2 per day (Table 2). In the weekly $[-2, +1]$ window, total complaints rise by 235.6 per week and bank-account complaints by 118.6 per week. All four estimates rank first among the 76 reassignment estimates. The same break appears in the unweighted and weighted weekly paths (Figures B.5 and B.6).

FIGURE 2. SDiD counterfactual path for bank-account complaints



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot Wells Fargo *Bank account or service* complaints and the SDiD control path. The SDiD control path is vertically aligned to Wells Fargo’s pre-period mean gap over the plotted window. The dashed vertical line marks September 2016; the shaded band marks the short post-disclosure window. Tables 1 and B.8 report SDiD estimates and placebo-rank inference.

TABLE 2. Exact-date timing of the complaint response

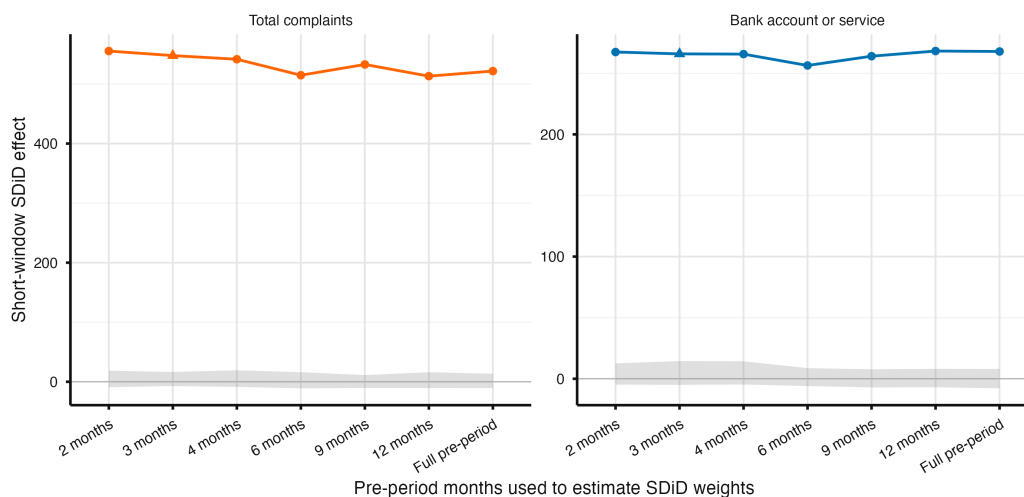
Outcome	Window	Effect	% pre mean	Rank	Rank value
Total complaints	Daily [-7,+6]	36.5	163.7	1/76	0.013
	Weekly [-2,+1]	235.6	132.4	1/76	0.013
Bank account or service	Daily [-7,+6]	17.2	273.2	1/76	0.013
	Weekly [-2,+1]	118.6	260.6	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Effects are SDiD estimates on daily or weekly complaint panels centered on the September 8, 2016 public enforcement disclosure. The daily window compares the seven event days before September 8 with the disclosure day and following six days; the weekly window compares the two event weeks before September 8 with week 0 and the following week. % pre mean divides the effect by Wells Fargo’s pre-period mean within the listed timing window. Rank values follow the inference conventions in Section B.

Pre-disclosure slopes do not explain the break. Table B.7 ranks placebo pre-trends by absolute size. Scaled to institutional complaint volume, Wells Fargo sits away from the upper tail, at 69/75 for total complaints and 50/75 for *Bank account or service* complaints. The estimated slopes are negative. The centered Wells Fargo-minus-control gap was drifting downward before the disclosure. Extrapolating that path forward would make the post-disclosure increase larger, not generate it.

FIGURE 3. SDiD effects across pre-disclosure weighting windows



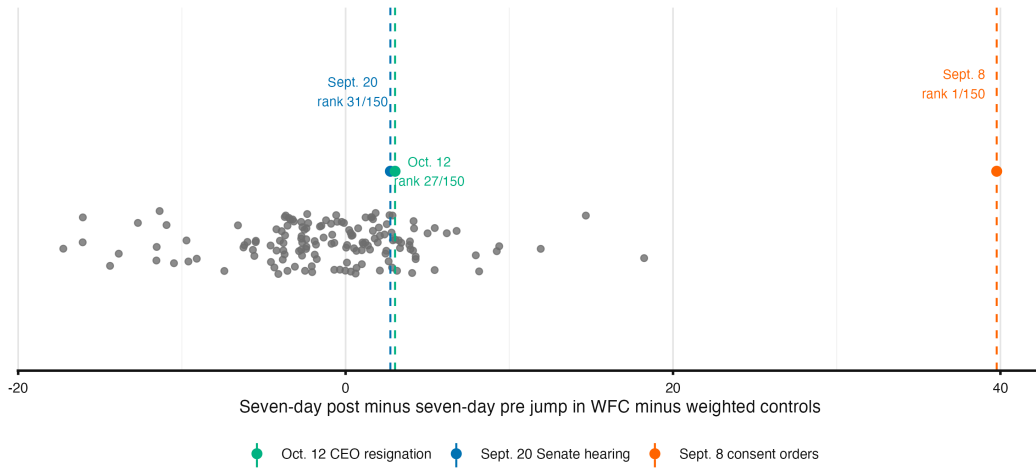
Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Points report short-window SDiD estimates using alternative donor-weight estimation windows before the September 2016 disclosure. The triangle marks the baseline June–August 2016 weighting window. Bands show the reassigned-control placebo range for the same statistic. Appendix Table B.6 reports the full specification details and placebo ranks.

Later Wells Fargo events do not reproduce the September 8 jump. Figure 4 compares the seven-day change in the daily Wells Fargo-minus-weighted-control gap at candidate dates from June 8 to November 24, 2016. The September 8 announcement produces a 39.8 complaint-per-day jump and ranks first out of 150 candidate dates. The September 20 Senate hearing and October 12 Chief Executive Officer resignation produce jumps of 2.7 and 3.0 complaints per day, ranking 31st and 27th. The increase is centered on the federal enforcement disclosure, not on the subsequent attention events.

Earlier public information about the sales-practice conduct also did not generate a comparable differential filing response. The *Los Angeles Times* investigation appeared in December 2013 (Reckard 2013), and the Los Angeles City Attorney sued Wells Fargo in May 2015 (Reckard 2015). Table 3 compares six-month windows around those events and the September 2016 federal consent orders. Around the 2013 investigation, Wells Fargo’s bank-account complaints grew 3.9%, compared with 6.3% for controls. Around the 2015 lawsuit, Wells Fargo’s bank-account complaints grew 25.9%, compared with 22.1% for controls. Around the federal consent orders, Wells Fargo’s bank-account complaints grew 104.7%, compared with 4.2% for controls. Investigative reporting and local litigation made versions of the conduct public, but they did not move formal bank-account complaints differentially in the way the federal enforcement disclosure did.

FIGURE 4. Event-timing distribution of daily complaint jumps



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, CFPB-supervised large-depository control group, and authors' calculations.

Note: Points show seven-day post minus seven-day pre jumps in the daily Wells Fargo-minus-weighted-control complaint gap for reference dates between June 8 and November 24, 2016, excluding dates within three days of September 8, September 20, and October 12. Vertical markers show the September 8 consent orders, September 20 Senate hearing, and October 12 CEO resignation. Ranks insert each marked event into the excluded-date reference distribution using the signed upper-tail statistic.

TABLE 3. Complaint flows around earlier Wells Fargo public-information events

Event	Group	Total pre	Total post	Total % chg.	Bank acct. pre	Bank acct. post	Bank acct. % chg.
LA Times investigation (Dec. 2013)	Wells Fargo	845.0	805.2	-4.7	196.5	204.2	3.9
	Controls	4,055.3	4,179.3	3.1	856.3	910.3	6.3
LA City Attorney suit (May 2015)	Wells Fargo	650.5	863.7	32.8	169.3	213.2	25.9
	Controls	3,891.8	4,528.2	16.4	940.7	1,148.7	22.1
Federal consent orders (Sept. 2016)	Wells Fargo	786.5	1,113.8	41.6	175.5	359.3	104.7
	Controls	4,844.0	4,933.5	1.8	1,418.0	1,477.2	4.2

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.

Note: Cells report mean monthly complaints in the six months before and the six months from each event month, for Wells Fargo and for the pooled CFPB-supervised controls. The LA Times investigation (December 2013) and the Los Angeles City Attorney lawsuit (May 2015) made versions of the sales-practice conduct public before the September 2016 federal consent orders. Figure B.3 plots the full monthly series.

Table 4 summarizes the treatment-bundle discipline. The design treats the September 8 federal consent-order package as a public enforcement disclosure bundle: official findings, penalties, restitution, national disclosure, and a complaint venue operated by one of the enforcing regulators.

The timing evidence locates the filing increase at that bundle. The daily break is rank-first, the pre-trend runs in the opposite direction, later attention dates do not replicate the jump,

TABLE 4. Treatment-bundle sequence and complaint-response checks

Event	Public-information content	Role in the design	Complaint-response check
LA Times report (Dec. 2013)	Public reporting on sales-practice conduct	Pre-federal publicity, without federal findings, restitution, or CFPB enforcement venue	Wells Fargo bank-account complaints grew 3.9%, below controls' 6.3%
LA City Attorney suit (May 2015)	Local litigation over account-opening practices	Litigation signal before the federal consent-order bundle	Wells Fargo bank-account complaints grew 25.9%, close to controls' 22.1%
CFPB/OCC consent orders (Sept. 8, 2016)	Official findings, penalties, restitution, national disclosure, and CFPB complaint venue	Defined public enforcement disclosure bundle	Wells Fargo bank-account complaints grew 104.7% versus controls' 4.2%; the daily jump ranks first
Senate hearing (Sept. 20, 2016)	High-coverage oversight after the consent orders	Later attention event, not a new filing-channel treatment	Total-complaint jump ranks 31st; bank-account jump is negative
CEO resignation (Oct. 12, 2016)	High-coverage governance event after the consent orders	Later attention event, not the main disclosure	Total-complaint jump ranks 27th; bank-account jump is near zero

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and event-window calculations in Table 3 and Figure 4.

Note: This table summarizes the timing evidence. The paper measures the response to the September 8 disclosure bundle; it does not separately identify official findings, penalties, restitution, national news coverage, or CFPB venue salience.

and earlier publicity does not produce a comparable differential increase in bank-account complaints.

4.3. Firm-Facing Complaint Flow

The main estimate also counts complaints that entered the firm's response process. In the complaint sample routed for company response, Wells Fargo receives 547.7 additional complaints per month, a 70.6% increase over the pre-disclosure mean (Table 5). The response-category fields show where some of those additional routed claims appear after processing. Complaints closed with monetary relief rise by 42.5 per month, complaints closed with non-monetary relief by 27.6 per month, and complaints disputed by consumers by 60.6 per month. These are counts of response outcomes, not estimates of dollar losses, reserves, legal liability, or welfare.

The added filings were large enough to change the firm's claims workload. During the short window, public enforcement adds roughly seven-tenths of Wells Fargo's ordinary monthly complaint flow, more than doubles the bank-account complaint flow, and produces rank-first increases at the exact disclosure date. Together, these filings mark a realized episode

TABLE 5. Firm-facing complaint flow and response categories

Outcome	Effect	% pre mean	Level rank	Rank value
Complaints requiring company response	547.7	70.6	1/76	0.013
Closed with monetary relief	42.5	70.4	1/76	0.013
Closed with non-monetary relief	27.6	60.9	4/76	0.053
Consumer disputed company response	60.6	36.0	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows report short-window SDiD estimates for monthly complaint counts. The first row translates the main filing response into complaints requiring company response; the remaining rows are descriptive CFPB response-category counts. Rank values follow the inference conventions in Section B. Public CFPB data report response categories, not claim values or relief dollar amounts.

of claim production, with unresolved customer problems entering the firm’s response system as claims.

An appendix cross-check shows that the September 8 disclosure was also salient to outside market monitors. IBES recommendation-detail data record seven Wells Fargo downgrades, five net, in the 90 days after disclosure, the highest count among public CFPB parent firms in the comparison set (Table B.21). This licensed-data exercise is non-identifying; it benchmarks event salience outside the CFPB complaint system rather than estimating the complaint-flow effect.

The next section returns to the CFPB filings and asks whether those additional claims appear in the products and issues made actionable by the enforcement record.

5. Product and Issue Allocation

The added claims did not spread evenly across Wells Fargo’s product taxonomy. They concentrate in *Bank account or service*, the product category most directly tied to the deposit-account conduct; within that product, they are centered on account opening, closing, and management complaints.

5.1. Product Concentration

The added filings concentrate where the enforcement record gives customers a name for the problem. In the short window, Wells Fargo receives 276.2 additional bank-account complaints per month relative to the product-level counterfactual, a 158.4% increase over its pre-disclosure mean (Table 6). The effect remains large in the long window at 146.7

additional complaints per month, or 77.7% of the pre-period mean. Both estimates rank first in the institution-reassignment distribution.

The other selected products respond differently. Credit-card complaints rise by 49.5 per month in the short window, a 69.4% increase over their pre-disclosure mean, and remain elevated in the long window. Mortgage complaints rise by 124.1 per month in the short window, but that increase is only 29.6% of Wells Fargo's large pre-period mortgage complaint flow and fades to 16.5 complaints per month in the long window. The persistent component is concentrated in the product category that contains the deposit-account conduct documented in the enforcement orders; the mortgage response is sizable but short-lived. This short-run mortgage response is consistent with the product-line sentiment spillovers documented by [Noel and Osman \(2024\)](#); its fade distinguishes broad attention from the durable account-service claim channel.

These magnitudes also put the complaint response in scale. Over the first three post-disclosure months, the bank-account effect implies about 798 additional complaints, equal to 0.052 percent of the 1,534,280 potentially unauthorized deposit accounts named in the CFPB order. The corresponding credit-card increment is about 149 complaints, or 0.026 percent of the 565,443 potentially unauthorized credit-card applications. These ratios measure venue-specific activation rates, or the share of documented conduct that appears as new CFPB complaint flow in the immediate post-disclosure window, not estimates of total harm. They reconcile the two scales of the event. The complaint increment is small relative to the conduct counts but large relative to Wells Fargo's ordinary administrative claims process ([Table B.23](#)).

The raw within-Wells Fargo decomposition gives the same allocation. Bank-account complaints increase by 283.7 per month from June–August to September–November 2016, absorbing 50.2% of the total complaint increase and gaining 11.7 percentage points of product share. Mortgage complaints increase by 139.3 per month, but mortgage loses 12.4 percentage points of product share because the overall Wells Fargo complaint flow rises even more. Credit-card complaints increase by 74.3 per month and account for 13.1% of the total increase. The rise is not a uniform firm-wide shift. It is disproportionately allocated to bank-account complaints.

The pooled DDD specification gives the same ordering. In that specification, the comparison category contains other upward-moving Wells Fargo products, so the bank-account contrast is conservative. The short-window bank-account effect is 256.7 complaints per month and ranks first among the 11 CFPB product categories. Excluding credit card and mortgage from the comparison category raises the estimate to 276.2 complaints per month,

TABLE 6. Product allocation of the Wells Fargo complaint increase, CFPB-supervised control group

Product	Short window			Long window			Share of increase %
	Effect	% pre	Rank value	Effect	% pre	Rank value	
Bank account or service	276.2	158.4	0.013	146.7	77.7	0.013	50.2
Credit card	49.5	69.4	0.013	36.1	59.4	0.053	13.1
Mortgage	124.1	29.6	0.013	16.5	3.7	0.053	24.6

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows report triple-difference complaint-filing effects for selected products. Effect is additional monthly Wells Fargo complaints. % pre divides the effect by Wells Fargo’s pre-period mean in that product. The short window is June–November 2016; the long window is April 2015–March 2017. For the bank-account row, the comparison category excludes credit card and mortgage; for the credit-card and mortgage rows, the comparison category excludes bank account in addition to the focal product. Share of increase is the product’s share of Wells Fargo’s total short-window complaint increase, computed as the September–November 2016 monthly mean minus the June–August 2016 monthly mean. Rank values follow the inference conventions in [Section B](#). The baseline pooled single-product contrasts, full product-share decomposition, and alternative-pool product ranks appear in [Tables B.24 to B.28](#).

but the ordering is unchanged. Bank account remains the largest product effect when the comparison pool is narrowed to U.S. G-SIBs or stress-test institutions.

5.2. The Credit-Card Visibility Margin

Credit cards are also named in the enforcement record, so the smaller credit-card response is informative rather than anomalous. The CFPB order reports 1,534,280 potentially unauthorized deposit accounts and 565,443 potentially unauthorized credit-card applications, a conduct-count ratio of about 2.7 to 1 ([Consumer Financial Protection Bureau 2016a](#)). The exclusion-contrast complaint-effect ratio is larger. The bank-account effect is about 5.6 times the credit-card effect. This asymmetry is consistent with the visibility gradient. An unfamiliar deposit account or unexplained fee can look like an internal bank error until the enforcement order supplies a misconduct category. An unauthorized credit-card application is more likely to generate separate pre-disclosure signals, such as an application notice, statement, credit inquiry, or credit-report entry. This pattern is consistent with fewer credit-card problems crossing the filing threshold at disclosure, even though credit cards are implicated.

The within-card issue evidence shows that the credit-card margin is present but more targeted. [Table 7](#) reports complaint flows in card-related and card-adjacent categories around the disclosure. Within the credit-card product, identity-theft and fraud complaints rise from 9.2 to 22.8 per month, a 147.5% increase, while the corresponding control increase is 6.9%. Other credit-card issues also rise sharply. Credit-reporting complaints do not rise

for Wells Fargo over the same window. The smaller aggregate credit-card product effect does not mean there is no card-related response. The response appears inside the credit-card product, especially in the issue category where visible unauthorized applications would naturally be filed, rather than through a large reclassification into credit reporting.

TABLE 7. Credit-card and adjacent complaint categories around disclosure

Category	WFC pre monthly	WFC post monthly	WFC % change	Control % change
Credit-card non-identity issues	60.9	130.4	114.3	9.4
Credit-reporting product	1.2	0.4	-70.5	17.9
Credit-card identity theft/fraud issue	9.2	22.8	147.5	6.9

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.

Note: Rows report day-count-adjusted monthly complaint flows in the June 1–November 30, 2016 window, split at September 8. WFC is Wells Fargo. The table reports categories where unauthorized credit-card harms could appear: non-identity-theft issues within the credit-card product, the credit-reporting product, and identity-theft or fraud issues within the credit-card product. Control changes use the CFPB-supervised comparison institutions.

5.3. Issue Allocation Within Bank-Account Complaints

The issue fields locate the bank-account response more precisely. Within *Bank account or service*, the issue category *account opening, closing, or management* rises from 41.4% of Wells Fargo’s bank-account complaints before the disclosure to 51.9% after the disclosure. Over the same window, the corresponding control share falls from 53.3% to 44.9%. The share difference-in-differences is 18.9 percentage points, the largest share-based increase among bank-account issue categories (Table B.29). Other issue categories lose share even where their raw counts rise. The additional bank-account filings concentrate in the administrative category closest to account access, authorization, and control.

The count estimates are large. A short-window SDiD specification for *Bank account or service* complaints with issue *account opening, closing, or management* estimates 152.5 additional monthly complaints, a 211.8% increase over Wells Fargo’s pre-period mean in the cell, and ranks first among the 76 reassignment estimates. The unweighted DiD estimate is similar at 166.7 additional monthly complaints. In the long window, the DiD effect remains 90.7 complaints per month, or 116.4% of the pre-period mean. A product-issue triple-difference gives the same allocation, with 162.6 additional monthly complaints in the short window and 88.7 in the long window. The named issue cell alone accounts for 29.1% of Wells Fargo’s total complaint increase from June–August to September–November 2016.

Composition sharpens the claims-shock interpretation. The largest and most persistent increase is in bank-account complaints, the product category directly tied to the deposit-account misconduct. Within that product, the increase concentrates in account opening,

TABLE 8. Named account-opening and account-management complaint evidence

Evidence	Window/period	Value	Scale	Rank	Rank value
Named issue SDiD	Short	152.5	211.8% pre mean	1/76	0.013
Named issue DiD	Short	166.7	231.5% pre mean	2/76	0.026
Named issue DiD	Long	90.7	116.4% pre mean	1/76	0.013
Product-issue DDD	Short	162.6	225.9% pre mean	2/76	0.026
Product-issue DDD	Long	88.7	113.9% pre mean	1/76	0.013
Named issue share	Pre to post	41.4% to 51.9%	+10.4 pp		

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows use complaints in *Bank account or service* with issue *Account opening, closing, or management*. The issue label is a CFPB administrative field and should be read as a broad complaint category, not an audited legal determination. Count-estimate rows report additional monthly Wells Fargo complaints relative to the listed comparison design. Short window is June–November 2016; long window is April 2015–March 2017. Rank values follow the inference conventions in Section B. The named issue share row reports Wells Fargo’s within-bank-account issue share before and after disclosure. The named issue cell accounts for 29.1% of Wells Fargo’s total complaint increase from June–August to September–November 2016.

closing, and management, the issue category closest to the conduct documented in the orders. Credit cards also respond, but the response is smaller and concentrated in visible card-related issue categories. The allocation is sharper than a broad increase in complaints against Wells Fargo alone. The persistent component appears where the enforcement disclosure made customer problems fileable.

6. Filing Mechanism and Geographic Scope

After locating the added claims in the CFPB taxonomy, the remaining question is whether they look filed or manufactured. A broad filing response should arrive through direct consumer channels, not through referrals, repeated text, duplicate records, or a local remediation episode.

6.1. Submission Routes and Duplicate Text

The added bank-account complaints arrive through direct Web filing rather than through referrals. Among Wells Fargo *Bank account or service* complaints, the Web filing share rises by 15.0 percentage points after the disclosure. Among control institutions, the Web share falls by 4.8 percentage points over the same window, so the relative increase is 19.8 percentage points. Referral filing moves in the opposite direction. Wells Fargo’s referral share falls by 13.4 percentage points while the control referral share rises by 4.6 percentage points, an 18.0 point relative decline. Phone filing falls slightly relative to controls. The

filing response is not concentrated in the referral route, as it would be if the increase were driven primarily by an intermediated referral campaign.

Repeated-text evidence points in the same direction. Public narratives are available only when consumers consent to publication, so we do not use them to classify the complaint population. They are useful as a screen for template or duplicate filing. At a TF-IDF cosine-similarity threshold of 0.90, the post-disclosure near-duplicate share among published Wells Fargo bank-account narratives is 0.0 percent; before disclosure it is 1.2 percent. At a more permissive 0.80 threshold, the post-disclosure near-duplicate share is still only 0.4 percent (Table B.31).

Exact-duplicate records also do not explain the estimates. In the short window, the exact-duplicate share is 1.1 percent for Wells Fargo before disclosure, 0.4 percent for Wells Fargo after disclosure, and 0.9 percent for controls after disclosure. Removing exact duplicates leaves the short-window SDiD effects essentially unchanged. The total-complaint effect is 551.4 rather than 547.7 complaints per month, and the bank-account effect is 266.1 rather than 265.9 complaints per month (Table B.36). The rise in complaints is not a mechanical artifact of repeated records or repeated public narrative text.

TABLE 9. Filing-channel and duplicate-text evidence

Evidence	Statistic	Value	Interpretation
Web filing	Wells Fargo change minus control change	19.8 pp	Direct Web filing rises
Referral filing	Wells Fargo change minus control change	-18.0 pp	Referral filing falls relative to controls
Phone filing	Wells Fargo change minus control change	-2.3 pp	No offsetting phone spike
Fuzzy near-duplicates	Post near-duplicate share, threshold 0.90	0.0%	Repeated public text remains rare
Exact duplicates, total complaints	SDiD effect after removing duplicates	551.4 vs. 547.7	Main estimate is unchanged
Exact duplicates, <i>Bank account or service</i>	SDiD effect after removing duplicates	266.1 vs. 265.9	Product estimate is unchanged

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and authors' calculations.

Note: Submission-route rows report difference-in-differences changes in category shares for Wells Fargo bank-account complaints relative to CFPB-supervised controls. The fuzzy near-duplicate row uses published Wells Fargo bank-account narratives and TF-IDF cosine similarity at or above 0.90. Narrative publication requires consumer consent, so duplicate-text screens are used only to assess template concerns, not to classify complaint themes. Exact-duplicate rows compare the baseline short-window SDiD estimate with the estimate after removing records that share parent unit, received date, product, sub-product, issue, sub-issue, state, ZIP, submission channel, and normalized narrative text with an earlier record.

6.2. Geographic Scope

The response is national rather than concentrated in Wells Fargo’s highest-exposure jurisdictions. Sorting CFPB state-field jurisdictions by Wells Fargo’s 2016 branch share, complaints rise sharply in every exposure quartile. The increase is 54.4 percent in the lowest-exposure quartile, where Wells Fargo’s mean branch share is zero, and 70.4 percent in the highest-exposure quartile, where the mean branch share is 17.3 percent. The middle quartiles increase by 75.8 and 81.0 percent. Control-institution complaints are flat or declining in the same quartiles. The filing response does not require a high local Wells Fargo branch presence.

Jurisdiction-level exposure gradients give the same conclusion. In jurisdiction-by-month regressions over June–November 2016, the post-disclosure interaction with Wells Fargo’s branch share is small relative to its standard error for both $\log(1 + \text{WFC complaints})$ and Wells Fargo’s share of local complaints. Deposit-share gradients are also imprecise. The log-count specification is positive, but the corresponding share specification does not show a parallel exposure response. The evidence does not imply that local exposure is irrelevant. It shows that local exposure is not the main source of the filing increase.

TABLE 10. Geographic scope of the complaint response

	Jurisdictions	Mean WFC branch share	WFC change	Control change
<i>Panel A. Complaint growth by Wells Fargo branch-share quartile</i>				
Q1, lowest exposure	15	0.0%	54.4%	-11.3%
Q2	15	1.0%	75.8%	-3.5%
Q3	15	8.4%	81.0%	-3.5%
Q4, highest exposure	14	17.3%	70.4%	1.4%
	Exposure measure	Post \times exposure	SE	<i>p</i>
<i>Panel B. Jurisdiction-level exposure gradients</i>				
$\log(1 + \text{WFC complaints})$	Branch share	0.675	0.724	0.356
WFC share of local complaints	Branch share	0.094	0.184	0.612
$\log(1 + \text{WFC complaints})$	Deposit share	0.898	0.531	0.096
WFC share of local complaints	Deposit share	0.135	0.131	0.310

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database state field and FDIC Summary of Deposits, 2016.

Note: Panel A groups CFPB state-field jurisdictions into quartiles of Wells Fargo’s 2016 branch share and reports the percent change in monthly complaints from June–August to September–November 2016 for Wells Fargo and for control institutions in the same jurisdictions. Panel B reports jurisdiction-by-month regressions over June–November 2016 with jurisdiction and month fixed effects; the coefficient is on the post-disclosure indicator interacted with Wells Fargo’s 2016 branch or deposit share in the jurisdiction. Standard errors are clustered by jurisdiction. Detailed versions appear in [Tables B.32](#) and [B.33](#).

Together, the filing-channel, duplicate-text, and geographic evidence narrows the interpretation of the complaint spike. Web filing rises relative to controls, referral filing falls, duplicate records and repeated public narratives are rare, and the increase appears across

low- and high-exposure jurisdictions. The pattern is hard to reconcile with a referral drive, a template campaign, a duplicate-record artifact, or a local remediation episode as the primary source of the estimates. It is consistent with broad, direct customer filing after a national enforcement disclosure.

7. Robustness

Five threats would have to overturn the main estimate: the weighted counterfactual, the comparison pool, the mixed September month, spillovers to controls, or duplicate complaint records. The checks below address these threats. They do not revisit the product, issue, filing-channel, or geographic evidence, which speak to the mechanism and scope of the response rather than to the stability of the main estimate.

A first concern is that SDiD weighting produces the result. The evidence does not support that concern. The unweighted two-way fixed-effects DiD benchmark gives 566.5 additional total complaints per month and 284.8 additional *Bank account or service* complaints per month, close to the baseline SDiD estimates of 547.7 and 265.9. Holding the SDiD donor weights fixed also leaves the estimates essentially unchanged. The estimates are 547.7 additional total complaints and 265.5 additional bank-account complaints per month. These checks show that the formal complaint shock is not specific to outcome-by-outcome donor refitting or to the weighted estimator (Tables B.13 and B.14).

The counterfactual is also not carried by one comparison institution. In the short-window SDiD estimates, the total-complaint counterfactual places positive weight on 44 donors, with an effective donor count of 9.1; the bank-account counterfactual places positive weight on 52 donors, with an effective donor count of 12.5. Dropping positive-weight donors one at a time leaves the estimates close to the baseline. The smallest leave-one-donor-out effects are 546.3 total complaints and 263.7 bank-account complaints per month, and Wells Fargo remains first in the full 76-unit reassignment distribution. The pre-period fit, donor-concentration, and leave-one-donor diagnostics are reported in Tables B.1, B.2 and B.4.

A second concern is that the CFPB-supervised comparison pool includes institutions that are too different from Wells Fargo. Restricting the donor pool to the largest banking organizations gives almost the same estimates. Using U.S. G-SIB controls yields 550.9 additional total complaints and 272.2 additional bank-account complaints per month. Using 2015 Federal Reserve stress-test organizations yields 545.2 and 266.1. Wells Fargo is the most extreme unit in each restricted pool; the larger rank values in those specifications

reflect the smaller placebo denominators, not a weaker estimate. The alternative-pool results are reported in [Table B.20](#).

A third concern is that the monthly design assigns all of September 2016 to the post period even though the enforcement disclosure occurred on September 8. Dropping September entirely and defining the post period as October–November 2016 reduces the estimates, as expected, because the specification discards the immediate filing surge. The effects remain large. They are 435.3 additional total complaints and 195.6 additional bank-account complaints per month. The exact-date daily and weekly specifications split September directly and show that the break begins at the disclosure date. The timing-convention and exact-date checks are reported in [Tables B.18](#) and [B.19](#).

A fourth concern is that comparison institutions were themselves partially treated. If the Wells Fargo disclosure caused consumers to file more complaints against other large retail banks, the control path would include same-direction spillovers and the Wells Fargo-control gap would be attenuated. The data show some evidence of this possibility. Several large controls experience modest same-direction increases in account-opening complaints after the disclosure. The same-direction increases are the cross-bank version of the claim-production mechanism: the Wells Fargo disclosure could also help customers at other banks classify account-opening problems, and those filings enter the control path. The main estimate does not depend on retaining those controls. Excluding the five largest branch-network retail depositories—Bank of America, JPMorgan Chase, Citigroup, U.S. Bancorp, and PNC—raises the estimates to 567.0 total complaints and 275.2 bank-account complaints per month. This pattern is consistent with spillovers making the baseline estimate conservative rather than creating the Wells Fargo spike ([Tables B.34](#) and [B.35](#)).

Finally, duplicate records do not explain the result. Exact duplicates account for about one percent of short-window complaints and fall for Wells Fargo after the disclosure. Removing them leaves the estimates unchanged. The estimates are 551.4 additional total complaints and 266.1 additional bank-account complaints per month, compared with 547.7 and 265.9 in the baseline. The main analysis retains all routed complaint records because the estimand is formal filing activity entering the firm’s response process, but the de-duplicated specification shows that repeated records do not drive the result ([Table B.36](#)).

The robustness checks leave the core estimate intact. Public enforcement generated a large increase in formal complaints against Wells Fargo, and that increase is not explained by the choice of counterfactual estimator, the breadth of the comparison pool, the monthly treatment convention, contaminated retail-bank controls, or duplicate complaint records.

8. Conclusion

Public enforcement against a financial intermediary can change more than what investors and regulators know about past misconduct. It can change the flow of formal claims the firm must answer. We study that margin using the September 2016 federal enforcement disclosure against Wells Fargo and the CFPB Consumer Complaint Database. The setting links a dated national disclosure, documented retail-banking conduct, and a complaint venue that routed customer filings back to the named firm for response.

The complaint response is large, immediate, and concentrated where the enforcement record predicts. Wells Fargo's complaint flow rises sharply at the federal disclosure, not gradually beforehand and not at later attention events. The benchmark estimate is 547.7 additional complaints per month in the short window, a 70.6% increase over the pre-disclosure mean. The added filings concentrate in the product and issue categories made actionable by the enforcement record, especially bank-account complaints and account opening, closing, and management. Filing-route, duplicate-text, geographic, and robustness checks leave the timing and allocation of the response intact.

The timing and allocation point to claim production. Public enforcement supplied a category, legitimacy, and expected response that helped unresolved customer problems enter a regulator-mediated process. Those filings entered Wells Fargo's response, compliance, and supervisory systems as named claims against the firm.

For the firm, the consequences of enforcement are not exhausted by penalties, market reactions, reputation, or subsequent operating outcomes. Once misconduct is publicly documented, customers can turn private account problems into formal obligations the firm must process. Managers and boards face a changed claim environment alongside the direct sanction.

The setting is bounded. The paper studies one large intermediary, one federal enforcement disclosure, ordinary retail financial products, and a complaint venue operated by one of the enforcing regulators. The estimates do not imply that every scandal or enforcement action produces the same complaint response. The broader lesson is narrower. When public enforcement documents conduct that customers can connect to their own experiences and provides a routable complaint channel, it changes what is known about the firm and what the firm has to answer.

References

- Adams, P., S. Hunt, C. Palmer, and R. Zaliauskas. 2021. "Testing the Effectiveness of Consumer Financial Disclosure: Experimental Evidence from Savings Accounts." *Journal of Financial Economics* 141 (1): 122–147. DOI: <https://doi.org/10.1016/j.jfineco.2020.05.009>.
- Agarwal, S., S. Chomsisengphet, N. Mahoney, and J. Stroebel. 2015. "Regulating Consumer Financial Products: Evidence from Credit Cards." *Quarterly Journal of Economics* 130 (1): 111–164. DOI: <https://doi.org/10.1093/qje/qju037>.
- Arena, M., and B. Julio. 2015. "The Effects of Securities Class Action Litigation on Corporate Liquidity and Investment Policy." *Journal of Financial and Quantitative Analysis* 50 (1-2): 251–275. DOI: <https://doi.org/10.1017/S0022109015000010>.
- Arkhangelsky, D., S. Athey, D. A. Hirshberg, G. W. Imbens, and S. Wager. 2021. "Synthetic Difference-in-Differences." *American Economic Review* 111 (12): 4088–4118. DOI: <https://doi.org/10.1257/aer.20190159>.
- Armour, J., C. Mayer, and A. Polo. 2017. "Regulatory Sanctions and Reputational Damage in Financial Markets." *Journal of Financial and Quantitative Analysis* 52 (4): 1429–1448. DOI: <https://doi.org/10.1017/S0022109017000461>.
- Ayres, I., J. Lingwall, and S. Steinway. 2014. "Skeletons in the Database: An Early Analysis of the CFPB's Consumer Complaints." *Fordham Journal of Corporate & Financial Law* 19 (2): 343–434, <https://ir.lawnet.fordham.edu/jcfl/vol19/iss2/2>.
- Bertrand, M., E. Duflo, and S. Mullainathan. 2004. "How Much Should We Trust Differences-in-Differences Estimates?" *Quarterly Journal of Economics* 119 (1): 249–275. DOI: <https://doi.org/10.1162/003355304772839588>.
- Bertrand, M., and A. Morse. 2011. "Information Disclosure, Cognitive Biases, and Payday Borrowing." *Journal of Finance* 66 (6): 1865–1893. DOI: <https://doi.org/10.1111/j.1540-6261.2011.01698.x>.
- Bhattacharya, A. 2023. "Consumer, Bank, and Stock Market Reaction to CFPB's Complaint Data Disclosure." *Journal of Financial Services Marketing* 28 (1): 128–145. DOI: <https://doi.org/10.1057/s41264-022-00143-2>.
- Campbell, J. Y., H. E. Jackson, B. C. Madrian, and P. Tufano. 2011. "Consumer Financial Protection." *Journal of Economic Perspectives* 25 (1): 91–114. DOI: <https://doi.org/10.1257/jep.25.1.91>.
- Card, D., and A. B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania." *American Economic Review* 84 (4): 772–793, <https://www.jstor.org/stable/2118030>.
- Conley, T. G., and C. R. Taber. 2011. "Inference with "Difference in Differences" with a Small Number of Policy Changes." *Review of Economics and Statistics* 93 (1): 113–125. DOI: https://doi.org/10.1162/REST_a_00049.
- Consumer Financial Protection Bureau. 2016a. "In the Matter of Wells Fargo Bank, N.A.: Consent Order." Administrative Proceeding 2016-CFPB-0015, https://files.consumerfinance.gov/f/documents/092016_cfpb_WFBconsentorder.pdf. Filed September 8, 2016.

- . 2016b. “Institutions Subject to CFPB Supervisory Authority: Depository Institutions and Affiliates.” https://files.consumerfinance.gov/f/documents/CFPB_Institutions_20160630_Dist.xlsx. List dated June 30, 2016.
- . 2017. “Summary of Product and Sub-Product Changes.” https://files.consumerfinance.gov/f/documents/201704_cfpb_Summary_of_Product_and_Sub-product_Changes.pdf. Effective April 24, 2017.
- . 2026. “Consumer Complaint Database.” Public database and bulk data download, <https://www.consumerfinance.gov/data-research/consumer-complaints/>. Accessed June 9, 2026.
- Curti, F., and A. Mihov. 2025. “Catch the Thief! Fraud in the U.S. Banking Industry.” *Review of Corporate Finance Studies*: cfaf027. DOI: <https://doi.org/10.1093/rcfs/cfaf027>.
- Dou, Y., M. Hung, G. She, and L. L. Wang. 2024. “Learning from Peers: Evidence from Disclosure of Consumer Complaints.” *Journal of Accounting and Economics* 77 (2–3): 101620. DOI: <https://doi.org/10.1016/j.jacceco.2023.101620>.
- Dou, Y., and Y. Roh. 2024. “Public Disclosure and Consumer Financial Protection.” *Journal of Financial and Quantitative Analysis* 59 (5): 2164–2198. DOI: <https://doi.org/10.1017/S0022109023000613>.
- Egan, M., G. Matvos, and A. Seru. 2019. “The Market for Financial Adviser Misconduct.” *Journal of Political Economy* 127 (1): 233–295. DOI: <https://doi.org/10.1086/700735>.
- Federal Deposit Insurance Corporation. 2026. “Bank Call Report Information.” Current Quarter Call Report Forms, Instructions, and Related Materials, <https://www.fdic.gov/bank-financial-reports/current-quarter-call-report-forms-instructions-and-related-materials>. Accessed June 9, 2026.
- Federal Financial Institutions Examination Council. 2026. “Central Data Repository Public Data Distribution.” <https://cdr.ffiec.gov/public/>. Accessed June 9, 2026.
- Frame, W. S., P. McLemore, and A. Mihov. 2025. “Haste Makes Waste: Banking Organization Growth and Operational Risk.” *Review of Corporate Finance Studies* 15 (2): 427–467. DOI: <https://doi.org/10.1093/rcfs/cfaf003>.
- Gilbert, R. A., and M. D. Vaughan. 2001. “Do Depositors Care About Enforcement Actions?” *Journal of Economics and Business* 53 (2–3): 283–311. DOI: [https://doi.org/10.1016/S0148-6195\(00\)00043-6](https://doi.org/10.1016/S0148-6195(00)00043-6).
- Haendler, C., and R. Z. Heimer. 2025. “The Hidden Costs of Financial Services: Consumer Complaints and Financial Restitution.” SSRN Working Paper. DOI: <https://doi.org/10.2139/ssrn.5218602>.
- Hayes, R. M., F. Jiang, and Y. Pan. 2021. “Voice of the Customers: Local Trust Culture and Consumer Complaints to the CFPB.” *Journal of Accounting Research* 59 (3): 1077–1121. DOI: <https://doi.org/10.1111/1475-679X.12364>.
- Jou, J., A. V. Kleymenova, A. Passalacqua, L. Sandor, and R. Vijayaraghavan. 2026. “Disciplining Banks through Disclosure: Evidence from CFPB Consumer Complaints.” SSRN Working Paper. DOI: <https://doi.org/10.2139/ssrn.5041008>.
- Karpoff, J. M., D. S. Lee, and G. S. Martin. 2008. “The Cost to Firms of Cooking the Books.” *Journal of Financial and Quantitative Analysis* 43 (3): 581–611. DOI: <https://doi.org/10.1017/S0022109000004221>.

- Noel, M. D., and S. M. I. Osman. 2024. "Bank Scandal Contagion: Evidence from the Wells Fargo Cross-Selling Scandal." *Global Finance Journal* 63: 101044. DOI: <https://doi.org/10.1016/j.gfj.2024.101044>.
- Pagano, M., and G. Immordino. 2012. "Corporate Fraud, Governance, and Auditing." *Review of Corporate Finance Studies* 1 (1): 109–133. DOI: <https://doi.org/10.1093/rcfs/cfs001>.
- Rambachan, A., and J. Roth. 2023. "A More Credible Approach to Parallel Trends." *Review of Economic Studies* 90 (5): 2555–2591. DOI: <https://doi.org/10.1093/restud/rdad018>.
- Reckard, E. S. 2013. "Wells Fargo's Pressure-Cooker Sales Culture Comes at a Cost." *Los Angeles Times*, <https://www.latimes.com/business/la-fi-wells-fargo-sale-pressure-20131222-story.html>. December 21, 2013.
- 2015. "L.A. Sues Wells Fargo, Alleging 'Unlawful and Fraudulent Conduct'." *Los Angeles Times*, <https://www.latimes.com/business/la-fi-wells-fargo-suit-20150505-story.html>. May 4, 2015.
- Shy, O., and J. Stavins. 2024. "Who Is Paying All These Fees? An Empirical Analysis of Bank Account and Credit Card Fees." *Journal of Economics and Business* 129: 106157. DOI: <https://doi.org/10.1016/j.jeconbus.2023.106157>.
- Stango, V., and J. Zinman. 2014. "Limited and Varying Consumer Attention: Evidence from Shocks to the Salience of Bank Overdraft Fees." *Review of Financial Studies* 27 (4): 990–1030. DOI: <https://doi.org/10.1093/rfs/hhu008>.

Internet Appendix

Appendix A. Data, Units, and Measurement

Sample construction, unit definitions, comparison sets, and product taxonomy define the empirical population for the main analysis. The complaint records come from the Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database bulk download (Consumer Financial Protection Bureau 2026). Table A.1 documents the primary analysis panel and the complaint fields used to construct the timing and response measures. Complaint-level company names are consolidated to parent organizations before aggregation to the parent-by-month panel, and the Wells Fargo treatment unit is defined at the parent-organization level. For the treated unit, the CFPB database records Wells Fargo complaints under a single standardized company name, and the crosswalk links that name to Wells Fargo & Co. through FDIC certificate 3511.

TABLE A.1. Primary complaint panel and variable definitions

Element	Definition
Analysis window	2015-04-01 through 2017-03-31.
Primary analysis panel	76 parent organizations over 24 months, or 1,824 parent-month observations.
Panel complaint count	133,631 complaints in the primary CFPB-supervised parent-month panel.
Comparison pool	Wells Fargo and 75 CFPB-supervised large-depository comparison institutions fixed from the June 30, 2016 supervised-institution list.
Period assignment	Monthly specifications use the CFPB Date received field aggregated to calendar month; exact-date timing tests use the same field at daily and weekly frequency.
Parent organization unit	Complaint-level company names are mapped to parent organizations before aggregation.
Main outcomes	Total complaints, Bank account or service complaints, Credit card complaints, and product-level complaint counts.

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, CFPB supervised-institution list, and parent-organization crosswalk.

Note: The table reports the analysis panel used by the main monthly specifications after parent-organization mapping and comparison-pool construction.

Product definitions follow the CFPB product taxonomy. *Bank account or service* is the direct account-service margin, *Credit card* is the secondary implicated product, and *Mortgage* captures broader Wells Fargo complaint responses outside the direct account-service margin. The triple-difference specifications compare each focal product with the remaining CFPB product categories. Table A.2 summarizes these product definitions and records how the April 2017 complaint-form change relates to our pre-change sample.

TABLE A.2. Product definitions

Element	Definition
Direct account-service product	Bank account or service, the legacy CFPB product category covering checking, savings, and account-management complaints during the sample window.
Secondary implicated product	Credit card, included as scandal-adjacent because unauthorized card applications were part of the enforcement record.
Broader response product	Mortgage, included to distinguish broader Wells Fargo complaint responses from the direct account-service margin.
Other products	All CFPB products outside the focal product being tested in a given triple-difference specification.
Taxonomy treatment	The sample ends before the CFPB's April 24, 2017 complaint-form product changes; product labels are used as originally submitted in the legacy form.

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB product-change documentation.

Note: Product labels are fixed before estimating the product-level effects and ranks.

The primary control pool is the set of CFPB-supervised banks and thrifts above the statutory large-depository threshold of \$10 billion in assets, plus supervised affiliates, on the June 30, 2016 supervised-institution list ([Consumer Financial Protection Bureau 2016b](#)). That pre-disclosure vintage fixes the comparison set before the event even though the complaint extract itself is downloaded later. This separates the eligibility vintage of the peer set from the source vintage of the outcome data. Parent-bank identifiers and balance-sheet support data used in control-pool construction are drawn from 2016:Q2 bank regulatory filings ([Federal Deposit Insurance Corporation 2026](#); [Federal Financial Institutions Examination Council 2026](#)). The alternative comparison pools are the U.S. global systemically important bank (G-SIB) organizations and the bank holding companies included in the 2015 Federal Reserve stress-test sample. [Table A.3](#) reports the size of each comparison pool and lists the comparison institutions.

Dated public source files define the complaint extract, sample construction, robustness analyses, and source vintages. [Table A.4](#) records the public inputs used in the analysis.

Duplicate-text checks use two record definitions. Exact duplicate records share the parent unit, received date, product, sub-product, issue, sub-issue, state, ZIP code, submission channel, and normalized narrative text. Fuzzy narrative checks use CFPB-published consumer complaint narratives with consumer consent and nonempty text. [Table A.5](#) records the text preprocessing choices used for those checks.

TABLE A.3. Comparison-pool definitions

Pool	Units	Comparison institutions
CFPB-supervised depositories	76	Ally Financial Inc.; American Express Co.; Arvest Bank; Associated Banc-Corp; Astoria Bank; Banco Popular De Puerto Rico; Bancorp-South Bank; Bank of America Corp.; Bank of Hawaii; Bank of New York Mellon Corp.; Bank of the West; BankUnited, National Association; Barclays Bank Delaware; BB&T Corp.; BBVA Compass Bancshares; BMO Financial Group; BOK Financial Corp.; Bremer Bank, National Association; Capital One Financial Corp.; Cathay Bank; Charles Schwab Corp.; CIT Bank, National Association; Citigroup Inc.; Citizens Financial Group Inc.; City National Bank; Comerica Inc.; Commerce Bancshares Inc.; Cullen/Frost Bankers Inc.; Discover Financial Services; E*TRADE Bank; East West Bank; Everbank; Fifth Third Bancorp; First Citizens Bancshares Inc.; First Hawaiian Inc.; First National Bank of Omaha; First National Bank of Pennsylvania; First Niagara Financial Group Inc.; First Republic Bank; Firstbank; Firstbank Puerto Rico; Flagstar Bank, FSB; Goldman Sachs Bank USA; Hancock Whitney Corp.; HSBC North America Holdings Inc.; Huntington Bancshares Inc.; Investors Bank; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corp.; MidFirst Bank; Morgan Stanley; Pacific Western Bank; People's United Bank, National Association; PNC Financial Services Group Inc.; Prosperity Bancshares Inc.; Rabobank, National Association; Raymond James Bank, National Association; Regions Financial Corp.; Santander Bank, National Association; Scottrade Bank; State Farm Bank, FSB; State Street Bank and Trust Company; SunTrust Banks Inc.; Synchrony Financial; Synovus Bank; TCF National Bank; The Northern Trust Company; Toronto-Dominion Bank; U.S. Bancorp; UBS Bank USA; Umpqua Holdings Corp.; Webster Bank, National Association; Western Alliance Bancorp.; Zions Bancorp.
2015 Federal Reserve stress-test parent organizations	29	Ally Financial Inc.; American Express Co.; Bank of America Corp.; Bank of New York Mellon Corp.; BB&T Corp.; BBVA Compass Bancshares; BMO Financial Group; Capital One Financial Corp.; Citigroup Inc.; Citizens Financial Group Inc.; Comerica Inc.; Discover Financial Services; Fifth Third Bancorp; Goldman Sachs Bank USA; HSBC North America Holdings Inc.; Huntington Bancshares Inc.; JPMorgan Chase & Co.; KeyCorp; M&T Bank Corp.; Morgan Stanley; PNC Financial Services Group Inc.; Regions Financial Corp.; Santander Bank, National Association; State Street Bank and Trust Company; SunTrust Banks Inc.; The Northern Trust Company; U.S. Bancorp; Zions Bancorp.
U.S. G-SIB parent organizations	8	Bank of America Corp.; Bank of New York Mellon Corp.; Citigroup Inc.; Goldman Sachs Bank USA; JPMorgan Chase & Co.; Morgan Stanley; State Street Bank and Trust Company

Source: Consumer Financial Protection Bureau (CFPB)-supervised institution list, Call Report identifiers, Federal Reserve U.S. G-SIB source list, and Federal Reserve 2015 stress-test institutions.

Note: Unit counts include Wells Fargo, so each pool has one fewer control institution than its unit count (for example, the eight G-SIB units comprise Wells Fargo plus the seven listed controls). Institution lists exclude Wells Fargo and report comparison institutions.

TABLE A.4. Source vintages for public complaint data

Element	Description
CFPB complaint data	Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database bulk file dated 2026-06-03.
CFPB supervised-institution list	Large-depository supervised-institution list dated 2016-06-30.
Call Report support data	Bank regulatory identifiers and balance-sheet variables use the 2016:Q2 Call Report support layer.
Product taxonomy	Product labels use the legacy CFPB complaint form in place before the April 24, 2017 product-change documentation.

TABLE A.5. Duplicate-text preprocessing

Component	Implementation
Text source	CFPB published consumer complaint narrative text for Wells Fargo Bank account or service complaints with consumer consent and nonempty narrative strings.
Tokenization	Lowercase text, remove digits and punctuation, collapse whitespace, split on whitespace, and retain tokens longer than two characters.
Normalization	Term-frequency counts are multiplied by inverse-document-frequency weights and row-normalized before cosine similarity is computed.
Exact duplicate definition	Exact-duplicate records share parent unit, received date, product, sub-product, issue, sub-issue, state, ZIP, submission channel, and normalized narrative text.
Fuzzy duplicate definition	Narrative pairs with TF-IDF cosine similarity at or above the listed threshold are treated as near-duplicates for repeated-text comparison.
Threshold sweep	Cosine thresholds 0.80, 0.85, 0.90, and 0.95.

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database narrative field.

Note: The preprocessing steps are used for the duplicate-text checks reported in the additional-results appendix.

Appendix B. Additional Analyses and Robustness

Appendix B collects supporting estimates, diagnostics, and robustness checks. The first group reports the SDiD counterfactual diagnostics, donor weights, leave-one-donor checks, held-out validation, weighting-window sensitivity, pre-trend ranks, placebo-gap ranks, size-matched ranks, and fixed or unweighted benchmark estimators. These displays show that the September 2016 Wells Fargo gap is not produced by a fragile donor set, a pre-period trend, or a comparison-scale artifact. The second group reports earlier public-information events, daily and weekly timing checks, September timing conventions, alternative comparison pools, and analyst-recommendation downgrades. These displays locate the complaint break at the September 8 disclosure and preserve the scale of the response under narrower peer sets. The third group reports response-category composition, affected-account scale calibrations, product triple-difference estimates, product-share decompositions, alternative-pool product ranks, issue composition, and

credit-card-adjacent complaint categories. These displays separate the direct bank-account margin from broader product attention and from adjacent credit-card classifications. The final group reports duplicate-text sensitivity, state exposure gradients, control-spillover checks, leave-out estimates, and exact-duplicate robustness. These displays distinguish a formal complaint-flow response from local exposure, common-bank spillovers, and repeated text records.

Rank values are finite-sample reassignment ranks, not model-based sampling p-values. Appendix tables report each rank value as Wells Fargo’s absolute rank over the relevant rank denominator, with rank 1 denoting the largest absolute estimated effect. Level ranks use Wells Fargo plus the reassigned-control institutions; size-matched proportional ranks restrict the proportional comparison to controls whose pre-period complaint volume is at least 10 percent of Wells Fargo’s. For fixed-effect difference-in-differences rows, parenthetical standard errors are clustered by parent institution. For SDiD rows, parenthetical standard errors are placebo-based synthetic-control dispersion benchmarks. Because the design has one treated bank, inference comes from reassignment ranks rather than the parenthetical standard errors.

The event-time benchmark referenced in [Section 3.3](#) augments the two-way fixed-effects DiD with event-time interactions:

$$Y_{it} = \alpha_i + \lambda_t + \sum_{\substack{k \in \mathcal{K} \\ k \neq -1}} \delta_k (WFC_i \times \mathbf{1}\{\text{EventTime}_t = k\}) + \varepsilon_{it}, \quad (\text{B1})$$

where \mathcal{K} is the set of event-time periods included in the window, and k indexes those periods relative to the September 8, 2016 disclosure. The omitted category is $k = -1$, the period immediately before disclosure.

TABLE B.1. SDiD pre-fit statistics, CFPB-supervised control group

Outcome	Win.	Weight pre-period	Level RMSPE	Mean gap	Centered RMSPE	Placebo centered fit median [p25, p75]	Scaled fit rank
Total complaints	Short	Jun. 2016–Aug. 2016	369.4	369.3	6.4	0.9 [0.7, 1.8]	2/76
	Long	Apr. 2015–Aug. 2016	155.7	149.5	43.7	2.3 [1.6, 6.8]	2/76
Bank account or service	Short	Jun. 2016–Aug. 2016	73.4	73.3	3.9	0.5 [0.3, 1.1]	5/76
	Long	Apr. 2015–Aug. 2016	102.6	101.1	17.9	1.4 [1.0, 3.7]	3/76

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Level RMSPE and mean gap compare Wells Fargo with its uncentered SDiD synthetic-control path before the September 2016 public enforcement disclosure; the two are nearly identical because the pre-period misfit is almost entirely a level offset, which the SDiD intercept absorbs. Centered RMSPE measures deviations of the Wells Fargo-minus-synthetic gap around its pre-period mean and is the design-relevant fit statistic. The short-window SDiD weights are estimated using only June–August 2016; the long-window weights use April 2015–August 2016. Placebo centered RMSPE reassigns treatment to each control institution after excluding Wells Fargo from the donor pool. The scaled fit rank orders centered RMSPE divided by each unit’s own pre-period mean, from lowest to highest among Wells Fargo and the 75 reassigned-control placebos, so the ranking is not driven by institution size.

TABLE B.2. SDiD donor-weight concentration

Outcome	Win.	Pos. donors	Top	Top 10	HHI	Eff. donors
Total complaints	Short	44	22.5	83.4	0.109	9.1
	Long	4	51.6	100.0	0.363	2.8
Bank account or service	Short	52	18.1	73.3	0.080	12.5
	Long	39	30.1	79.4	0.137	7.3

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Weights are positive SDiD unit weights. Top and Top 10 are percentages of total donor weight. HHI is the sum of squared donor weights; effective donors is the inverse HHI.

TABLE B.3. SDiD donor weights, CFPB-supervised control group

Outcome	Win.	Donor	Weight	Cum.
Total complaints	Short	Bank of America Corp.	22.47	22.5
		JPMorgan Chase & Co.	16.37	38.8
		Capital One Financial Corp.	11.15	50.0
		American Express Co.	7.12	57.1
		U.S. Bancorp	6.27	63.4
		Barclays Bank Delaware	5.80	69.2
		Discover Financial Services	5.10	74.3
	Long	PNC Financial Services Group Inc.	4.08	78.4
		Toronto-Dominion Bank	3.06	81.4
		Fifth Third Bancorp	1.96	83.4
		Bank of America Corp.	51.59	51.6
		JPMorgan Chase & Co.	27.20	78.8
		Synchrony Financial	12.58	91.4
		Scottrade Bank	8.62	100.0
Bank account or service	Short	JPMorgan Chase & Co.	18.09	18.1
		Bank of America Corp.	14.54	32.6
		PNC Financial Services Group Inc.	7.87	40.5
		U.S. Bancorp	7.49	48.0
		SunTrust Banks Inc.	6.32	54.3
		Fifth Third Bancorp	4.78	59.1
		Capital One Financial Corp.	3.77	62.9
	Long	Citizens Financial Group Inc.	3.77	66.6
		BBVA Compass Bancshares	3.49	70.1
		Santander Bank, National Association	3.17	73.3
		Bank of America Corp.	30.08	30.1
		Regions Financial Corp.	15.48	45.6
		Scottrade Bank	10.99	56.5
		BB&T Corp.	5.00	61.5
		Banco Popular De Puerto Rico	3.74	65.3
		TCF National Bank	3.31	68.6
		Umpqua Holdings Corp.	2.83	71.4
Bank of the West	2.83	74.3		
Fifth Third Bancorp	2.75	77.0		
State Farm Bank, FSB	2.35	79.4		

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Unit donor weights are percentages from the SDiD estimates for each outcome and window. Win. denotes the estimation window. Weights sum to 100 within each estimate; rows report the ten largest positive donor weights. Cum. is the cumulative share of total positive weight running down the listed donors, so the last row equals the share covered by the reported donors.

TABLE B.4. Leave-one-positive-donor-out SDiD stability

Outcome	Baseline	Min jackknife	Max jackknife	Min/baseline	Rank at min	Worst rank	Worst-effect donor
Total complaints	547.7	546.3	550.5	0.997	1/76	1/76	American Express Co.
Bank account	265.9	263.7	268.5	0.992	1/76	1/76	Citigroup Inc.
Named issue	152.5	151.9	153.8	0.996	1/76	2/76	Bank of America Corp.

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Each row starts from the short-window SDiD specification and re-estimates it after dropping each positive-weight donor once. Positive donor counts are 44 for total complaints, 52 for Bank account, and 34 for the named issue. Rank columns follow the inference conventions in Section B. Rank at min is computed at the smallest jackknife estimate; worst rank is the largest rank observed across leave-one-donor-out runs. Min/baseline divides the smallest jackknife estimate by the baseline estimate.

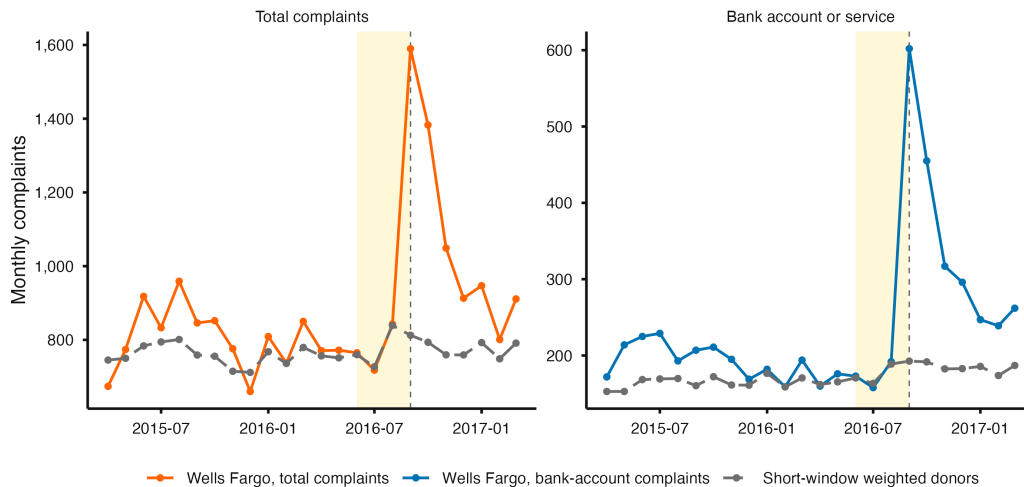
TABLE B.5. Held-out validation of short-window donor weights

Outcome	Validation months	Centered gap RMSE	RMSE, % of pre mean	Path correlation
Total complaints	14	75.9	9.5	0.805
Bank account or service	14	34.8	18.1	0.275

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Donor weights are estimated from June–August 2016 only (the short-window specification) and held fixed; the weighted comparison path is then compared with Wells Fargo over the April 2015–May 2016 validation window, which is excluded from weight estimation. Centered gap RMSE measures deviations of the Wells Fargo-minus-weighted-comparison gap around its June–August 2016 mean. Path correlation is the correlation between the Wells Fargo and weighted-comparison monthly series over the validation window. Figure B.1 plots the two paths.

FIGURE B.1. Short-window donor weights over the full pre-history



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot Wells Fargo and the weighted comparison path constructed with donor weights estimated from June–August 2016 only (shaded band), shifted by the June–August mean gap. The April 2015–May 2016 segment is excluded from weight estimation and serves as the validation window; Table B.5 reports the validation statistics. The dashed vertical line marks September 2016.

TABLE B.6. SDiD estimates across weighting windows

Outcome	Window	Eff. donors	Top-10 wt.	Pre RMSPE	Held-out RMSE	Held-out corr.	Effect	Rank	Rank value
Total complaints	2 months	9.5	81.8	5.5	80.9	0.784	555.4	1/76	0.013
Bank account or service	2 months	12.5	70.8	4.0	35.0	0.286	267.4	1/76	0.013
Total complaints	3 months	9.1	83.4	6.4	75.9	0.805	547.7	1/76	0.013
Bank account or service	3 months	12.5	73.3	3.9	34.8	0.275	265.9	1/76	0.013
Total complaints	4 months	9.8	77.6	9.2	75.6	0.799	541.6	1/76	0.013
Bank account or service	4 months	21.0	54.3	6.1	32.5	0.237	265.7	1/76	0.013
Total complaints	6 months	5.4	97.7	18.1	65.7	0.828	514.8	1/76	0.013
Bank account or service	6 months	18.0	64.6	9.3	32.5	0.302	256.4	1/76	0.013
Total complaints	9 months	3.7	98.3	19.4	71.9	0.746	532.8	1/76	0.013
Bank account or service	9 months	16.3	65.0	7.8	38.2	0.519	264.0	1/76	0.013
Total complaints	12 months	3.4	100.0	30.2	76.5	0.983	513.2	1/76	0.013
Bank account or service	12 months	7.6	92.1	12.1	35.9	0.331	268.2	1/76	0.013
Total complaints	Full pre-period	2.6	100.0	43.4			521.7	1/76	0.013
Bank account or service	Full pre-period	5.4	91.4	17.5			267.8	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Each row re-estimates the short-window SDiD effect using the listed pre-disclosure months for donor weights and September–November 2016 as post. Top-10 wt. is the percent of donor weight on the ten largest positive donors. Pre RMSPE is centered over the weight-estimation months. Held-out fit statistics use earlier pre-history excluded from the weight window and are blank for the full-pre-period row. Rank values follow the inference conventions in Section B.

TABLE B.7. Placebo-based SDiD pre-trend ranks

Outcome	Slope	% pre mean/mo.	Fitted change	Scaled rank	Scaled value	Slope rank	Rank value
Total complaints	-1.13	-0.142	-18.1	69/75	0.920	7/76	0.092
Bank account or service	-2.60	-1.377	-41.6	50/75	0.667	2/76	0.026

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: The table estimates the slope of Wells Fargo’s centered pre-disclosure SDiD gap over the long pre-period, April 2015–August 2016, and ranks that slope against slopes from reassigning treatment to each control institution after excluding Wells Fargo. Rank values follow the inference conventions in Section B; the ranked statistic is the absolute pre-disclosure slope. Scaled rank uses the slope as a percent of the reassigned institution’s own pre-period mean. The size-scaled slope is the design-relevant measure for a bank of Wells Fargo’s volume: on that scale Wells Fargo sits at 69/75 for total complaints and 50/75 for bank-account complaints, well away from the upper tail. Both pre-disclosure slopes are negative—Wells Fargo’s centered gap to the control path was trending downward before the disclosure—so the estimated pre-trend runs opposite in sign to the post-disclosure increase and, extrapolated forward, would widen the measured effect rather than create it.

TABLE B.8. SDiD placebo gap ranks, CFPB-supervised control group

Outcome	Effect	Mean post gap	Months above month max	Placebos	Rank	Rank value
Total complaints	547.7	552.1	3/3	75	1/76	0.013
Bank account or service	265.9	269.0	3/3	75	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Table reports the short-window SDiD estimate and centered Wells Fargo-minus-synthetic-control gaps after September 2016. Placebo paths reassign treatment to each control unit after excluding Wells Fargo from the donor pool. Months above month max counts post months in which Wells Fargo's centered gap exceeds the maximum reassigned-control placebo gap in that same month; Table B.9 reports the month-by-month comparison. Rank values follow the inference conventions in Section B.

TABLE B.9. Month-by-month SDiD placebo gap comparison, CFPB-supervised control group

Outcome	Month	WFC centered gap	Month max placebo gap	WFC monthly rank
Total complaints	Sep. 2016	777.4	87.3	1/76
	Oct. 2016	589.5	78.6	1/76
	Nov. 2016	289.5	98.0	1/76
Bank account or service	Sep. 2016	409.3	41.1	1/76
	Oct. 2016	263.3	45.3	1/76
	Nov. 2016	134.5	28.3	1/76

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Each row compares Wells Fargo's centered post-disclosure gap in the listed month with the distribution of centered reassigned-control placebo gaps in the same month. Month max placebo gap is the largest placebo gap in that month. WFC monthly rank is Wells Fargo's rank after adding the observed Wells Fargo gap to the 75 reassigned-control placebo gaps; rank 1 denotes the largest centered gap.

TABLE B.10. Scaled and size-matched SDiD placebo ranks, CFPB-supervised control group

Outcome	Placebo scaling	WFC value	Eligible placebos	Rank	Rank value
Total complaints	Level effect, all controls	547.7	75	1/76	0.013
	Level effect, size-matched controls	547.7	13	1/14	0.071
	Percent of own pre-period mean, size-matched controls	70.6%	13	1/14	0.071
Bank account or service	Level effect, all controls	265.9	75	1/76	0.013
	Level effect, size-matched controls	265.9	17	1/18	0.056
	Percent of own pre-period mean, size-matched controls	152.5%	17	1/18	0.056

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Each block re-ranks the short-window SDiD estimate against the reassigned-control placebo distribution under the listed scaling. Size-matched rows restrict the placebo pool to control institutions whose short-window pre-period mean is at least 10 percent of Wells Fargo’s. Percent rows divide each eligible unit’s placebo effect by that unit’s own pre-period mean. Rank values follow the inference conventions in Section B.

TABLE B.11. Pre-period scale and proportional placebo volatility

Outcome	Pre-period group	scale	Controls	Median baseline (% WFC)	Median abs. %	90th pct. abs. %	Max abs. %	Outrank WFC
Bank account or service	Below 5%		46	0.8	89.2	428.1	718.8	12/46
Bank account or service	5-10%		7	8.6	25.9	58.4	101.3	0/7
Bank account or service	≥10%	(size-matched)	17	19.3	21.7	55.8	58.8	0/17
Total complaints	Below 5%		50	0.6	142.0	874.3	2,660.5	36/50
Total complaints	5-10%		8	6.9	22.0	36.6	43.3	0/8
Total complaints	≥10%	(size-matched)	13	29.8	4.6	25.6	38.1	0/13

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows group reassigned-control placebo effects by each institution’s short-window pre-period complaint mean as a share of Wells Fargo’s pre-period mean. Abs. % is the absolute short-window placebo SDiD effect divided by the placebo institution’s own pre-period mean. Outrank WFC counts controls whose absolute percent placebo effect is at least as large as the Wells Fargo percent effect.

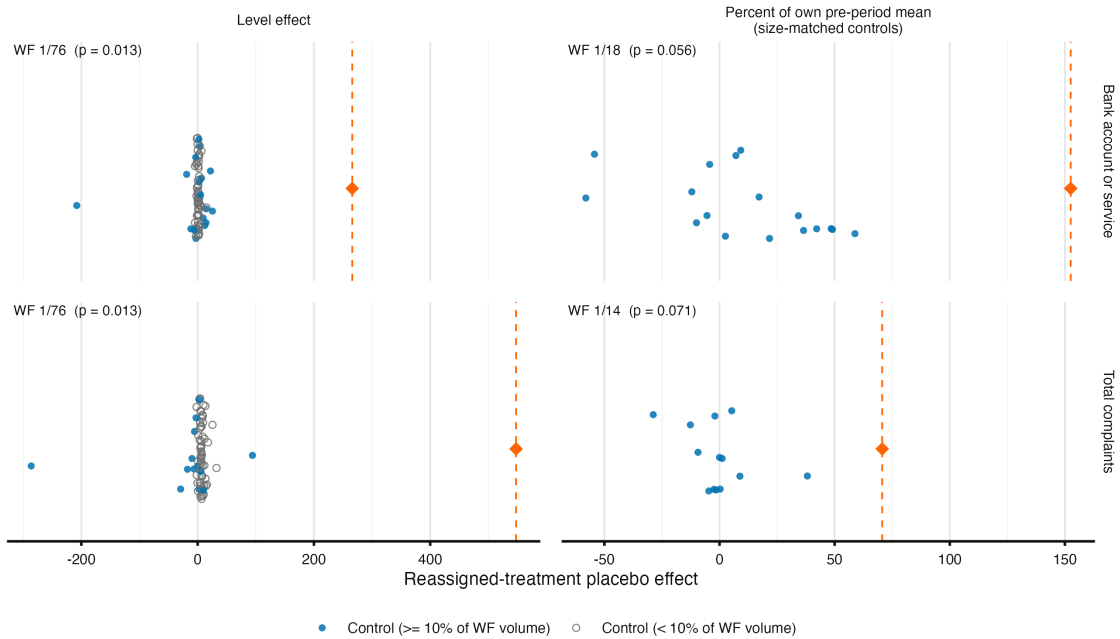
TABLE B.12. Size-match threshold sensitivity for percent placebo ranks

Outcome	Threshold	Eligible controls	WFC % pre mean	Rank	Rank value
Total complaints	5%	21	70.6	1/22	0.045
Total complaints	10%	13	70.6	1/14	0.071
Total complaints	15%	9	70.6	1/10	0.100
Total complaints	20%	7	70.6	1/8	0.125
Total complaints	25%	7	70.6	1/8	0.125
Bank account or service	5%	24	152.5	1/25	0.040
Bank account or service	10%	17	152.5	1/18	0.056
Bank account or service	15%	12	152.5	1/13	0.077
Bank account or service	20%	8	152.5	1/9	0.111
Bank account or service	25%	7	152.5	1/8	0.125

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Threshold is the required pre-period complaint volume as a share of Wells Fargo’s pre-period volume. The point estimate is unchanged across rows; only the eligible placebo pool for percent-of-own-pre-period-mean ranks changes. Rank values follow the inference conventions in Section B.

FIGURE B.2. Level and size-matched placebo distributions for one-treated-bank inference



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Each panel plots reassigned-treatment placebo effects for the control institutions under one scaling: the level effect or the effect as a percent of each institution’s own pre-period mean within the size-matched donor subset. Size-matched controls have pre-period volume at least 10 percent of Wells Fargo’s. The orange diamond and dashed line mark the Wells Fargo estimate, and each panel is annotated with Wells Fargo’s absolute placebo rank and rank value.

TABLE B.13. Baseline DiD estimates and placebo ranks, CFPB-supervised control group

Outcome	Window	Effect	% pre mean	Rank	Rank value
Total complaints	Short	566.5 (4.2)	73.1	1/76	0.013
	Long	281.8 (1.7)	35.3		
Bank account or service	Short	284.8 (3.7)	163.4	1/76	0.013
	Long	153.6 (1.0)	81.4		

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Effects are monthly complaint counts for Wells Fargo relative to the control group; post begins September 2016. Short window is June–November 2016; long window is April 2015–March 2017. For fixed-effect DiD rows, parenthetical standard errors are clustered by parent institution. Because the design has one treated institution, inference comes from reassignment ranks rather than the parenthetical standard errors. % pre mean divides the effect by Wells Fargo’s pre-period mean. Rank values follow the inference conventions in Section B.

TABLE B.14. Fixed-weight SDiD estimates, CFPB-supervised control group

Outcome	Window	Effect	% pre mean	Rank	Rank value
Total complaints	Short	547.7 (44.6)	70.6	1/76	0.013
	Long	297.2 (17.5)	37.3	1/76	0.013
Bank account or service	Short	265.5 (28.5)	152.3	1/76	0.013
	Long	149.2 (19.3)	79.0	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Effects are monthly complaint counts for Wells Fargo relative to the SDiD control path; post begins September 2016. Short window is June–November 2016; long window is April 2015–March 2017. For SDiD rows, parenthetical standard errors are placebo-based synthetic-control dispersion benchmarks. Because the design has one treated institution, inference comes from reassignment ranks rather than the parenthetical standard errors. Donor weights are fixed to the unit weights from the total-complaints short-window SDiD estimate; time weights are estimated separately for each outcome and window. Reassigned-control placebos reuse the fixed donor weights after excluding the reassigned treated unit and renormalizing remaining donor weights. % pre mean divides the effect by Wells Fargo’s pre-period mean. Rank values follow the inference conventions in Section B.

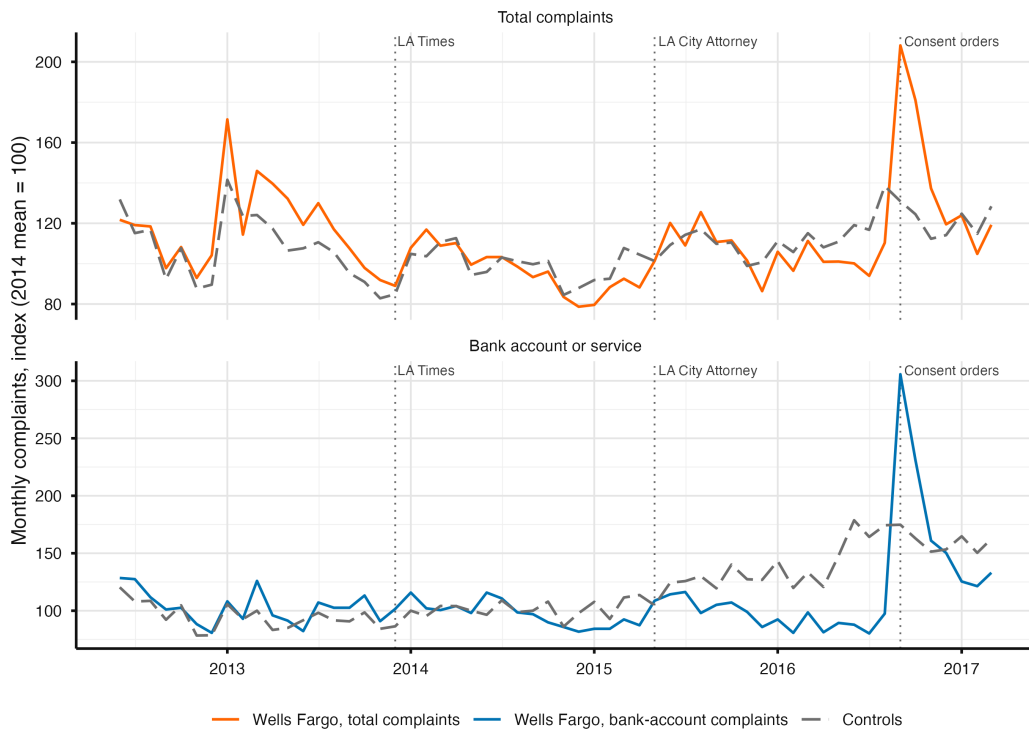
TABLE B.15. Fixed SDiD donor weights, CFPB-supervised control group

Rank	Donor	Weight	Rank	Donor	Weight
1	Bank of America Corp.	22.47	23	BMO Financial Group	0.53
2	JPMorgan Chase & Co.	16.37	24	HSBC North America Holdings Inc.	0.51
3	Capital One Financial Corp.	11.15	25	Banco Popular De Puerto Rico	0.49
4	American Express Co.	7.12	26	Zions Bancorp.	0.35
5	U.S. Bancorp	6.27	27	Hancock Whitney Corp.	0.28
6	Barclays Bank Delaware	5.80	28	Goldman Sachs Bank USA	0.28
7	Discover Financial Services	5.10	29	Firstbank	0.26
8	PNC Financial Services Group Inc.	4.08	30	BankUnited, National Association	0.23
9	Toronto-Dominion Bank	3.06	31	MidFirst Bank	0.21
10	Fifth Third Bancorp	1.96	32	KeyCorp	0.15
11	SunTrust Banks Inc.	1.81	33	Flagstar Bank, FSB	0.12
12	BB&T Corp.	1.79	34	Cullen/Frost Bankers Inc.	0.12
13	Citizens Financial Group Inc.	1.50	35	Arvest Bank	0.11
14	M&T Bank Corp.	1.28	36	E*TRADE Bank	0.09
15	CIT Bank, National Association	1.07	37	Cathay Bank	0.07
16	State Farm Bank, FSB	0.84	38	Western Alliance Bancorp.	0.07
17	Synovus Bank	0.82	39	People's United Bank, National Association	0.07
18	BBVA Compass Bancshares	0.81	40	Citigroup Inc.	0.05
19	First National Bank of Omaha	0.75	41	Bank of New York Mellon Corp.	0.05
20	Santander Bank, National Association	0.64	42	Everbank	0.05
21	First Citizens Bancshares Inc.	0.62	43	Huntington Bancshares Inc.	0.03
22	Webster Bank, National Association	0.55	44	City National Bank	0.02
Reported positive weights		100.00			

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Donor weights are the positive unit weights from the total-complaints short-window SDiD estimate and are reused for the fixed-weight estimates in Table B.14. Omitted CFPB-supervised control units receive zero weight. Reported positive weights sum to 100 percent.

FIGURE B.3. Wells Fargo and control complaints around earlier public-information events



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.
 Note: Lines plot monthly complaints for Wells Fargo and the pooled CFPB-supervised controls, indexed so each series' 2014 calendar-year mean equals 100. Dotted vertical lines mark the December 2013 *Los Angeles Times* investigation, the May 2015 Los Angeles City Attorney lawsuit, and the September 2016 federal consent orders. Table 3 reports the event-window comparisons.

TABLE B.16. Daily complaint jumps at within-window events

Outcome	Event	7-day jump	Placebo-day jump SD	Placebo-day jump p90	% placebo days below
Total complaints	Enforcement announcement (Sept. 8)	39.8	10.0	9.6	100.0
	Senate hearing (Sept. 20)	2.7	10.0	9.6	66.7
	CEO resignation (Oct. 12)	3.0	10.0	9.6	66.7
Bank account or service	Enforcement announcement (Sept. 8)	18.5	5.9	5.6	100.0
	Senate hearing (Sept. 20)	-2.5	5.9	5.6	36.7
	CEO resignation (Oct. 12)	0.2	5.9	5.6	46.7

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.
 Note: The jump statistic is the mean Wells Fargo-minus-weighted-control daily gap in the seven days from the event minus the mean gap in the seven preceding days. Placebo-day columns compute the same statistic at every other feasible day in the event window, excluding days within three days of the listed events. Donor weights are the short-window total-complaints SDiD weights.

TABLE B.17. Event-timing rank construction robustness

Outcome	Configuration	Jump days	Excl. band	Candidate dates	Sept. 8 jump	Rank	Rank value
Total complaints	Exclusion band +/-2 days	7	2	Jun. 8–Nov. 24	39.8	1/156	0.006
Total complaints	Exclusion band +/-3 days	7	3	Jun. 8–Nov. 24	39.8	1/150	0.007
Total complaints	Exclusion band +/-5 days	7	5	Jun. 8–Nov. 24	39.8	1/138	0.007
Total complaints	Exclusion band +/-7 days	7	7	Jun. 8–Nov. 24	39.8	1/129	0.008
Total complaints	5-day pre/post jump	5	3	Jun. 8–Nov. 24	34.0	1/150	0.007
Total complaints	7-day pre/post jump	7	3	Jun. 8–Nov. 24	39.8	1/150	0.007
Total complaints	10-day pre/post jump	10	3	Jun. 8–Nov. 24	33.0	1/144	0.007
Total complaints	14-day pre/post jump	14	3	Jun. 8–Nov. 24	33.1	1/136	0.007
Total complaints	Narrow candidate window	7	3	Jul. 1–Nov. 15	39.8	1/118	0.008
Total complaints	Baseline candidate window	7	3	Jun. 8–Nov. 24	39.8	1/150	0.007
Total complaints	Wide candidate window	7	3	Jun. 1–Nov. 30	39.8	1/150	0.007
Bank account or service	Bank-account gap, total-complaint weights	7	3	Jun. 8–Nov. 24	18.5	1/150	0.007
Bank account or service	Bank-account gap, bank-account weights	7	3	Jun. 8–Nov. 24	18.8	1/150	0.007

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows re-rank the September 8 daily jump in the Wells Fargo-minus-weighted-control gap under alternative exclusion bands, jump-window lengths, candidate-date windows, and donor-weight choices. These event-timing ranks compare candidate event dates, not institution reassignments. Rank value is the signed upper-tail rank divided by the rank denominator.

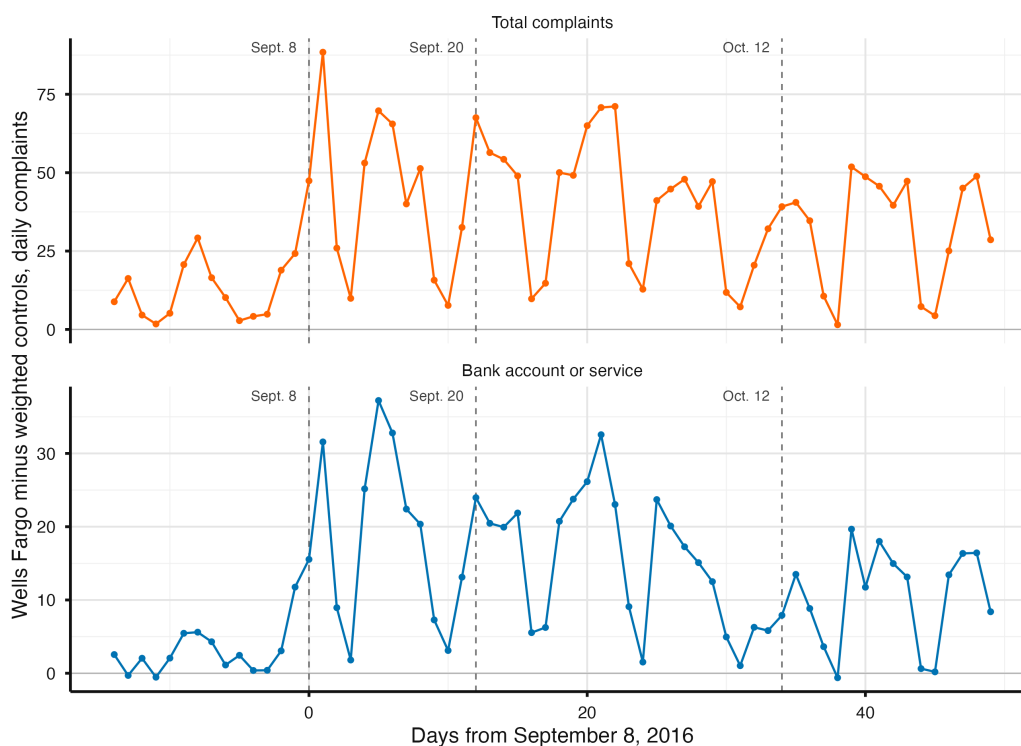
TABLE B.18. Exact-date timing SDiD, CFPB-supervised control group

Outcome	Window	Effect	% pre mean	Rank	Rank value
Total complaints	Daily [-7,+6]	36.5	163.7	1/76	0.013
	Daily [-14,+13]	29.8	117.2	1/76	0.013
	Weekly [-2,+1]	235.6	132.4	1/76	0.013
	Weekly [-4,+3]	235.2	131.8	1/76	0.013
Bank account or service	Daily [-7,+6]	17.2	273.2	1/76	0.013
	Daily [-14,+13]	15.4	236.4	1/76	0.013
	Weekly [-2,+1]	118.6	260.6	1/76	0.013
	Weekly [-4,+3]	121.7	279.7	1/76	0.013

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Effects are SDiD estimates on daily or weekly complaint panels centered on the September 8, 2016 public enforcement disclosure. Daily windows use event days before and after September 8; weekly windows use seven-day event weeks with week 0 beginning September 8. % pre mean divides the effect by Wells Fargo's pre-period mean within the listed timing window. Rank values follow the inference conventions in Section B.

FIGURE B.4. Daily complaint gap and the within-window event sequence



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot the daily gap between Wells Fargo and the weighted control path, using short-window total-complaints SDiD donor weights. Dashed vertical lines mark the September 8 enforcement announcement, the September 20 Senate hearing, and the October 12 CEO resignation. Table B.16 reports the jump statistics.

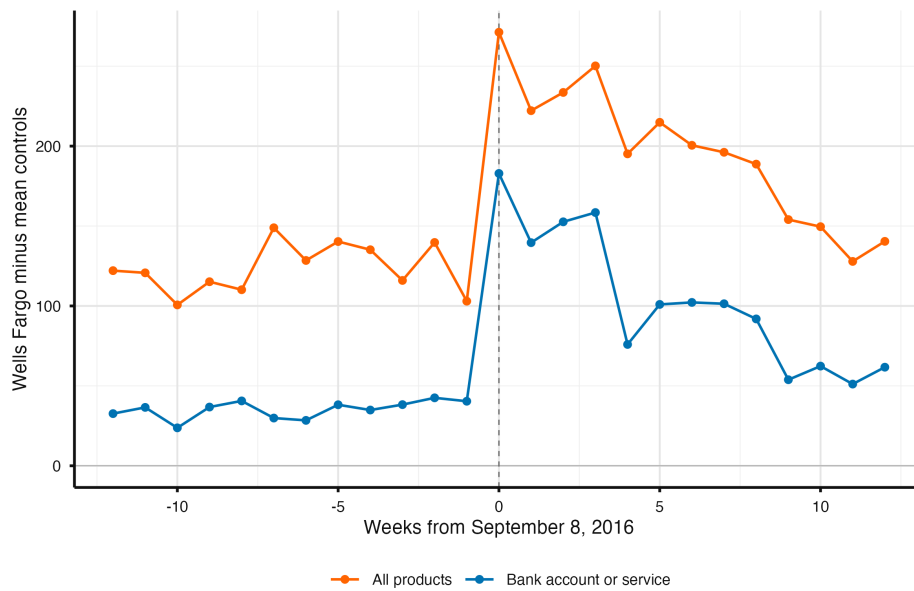
TABLE B.19. Monthly September-timing convention SDiD, CFPB-supervised control group

Outcome	Window	Convention	Effect	% pre mean
Total complaints	Short	September post	547.7	70.6
		Drop Sept.	435.3	56.1
	Long	September post	299.0	37.5
		Drop Sept.	223.9	28.1
Bank account or service	Short	September post	265.9	152.5
		Drop Sept.	195.6	112.2
	Long	September post	154.7	82.0
		Drop Sept.	111.8	59.2

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Effects are monthly SDiD point estimates. September post is the baseline convention that treats September 2016 as post; Drop Sept. removes September 2016 from the monthly panel and defines post as October 2016 onward. % pre mean divides the effect by Wells Fargo's pre-period mean under the listed convention. Table B.18 splits September directly using daily and weekly event windows.

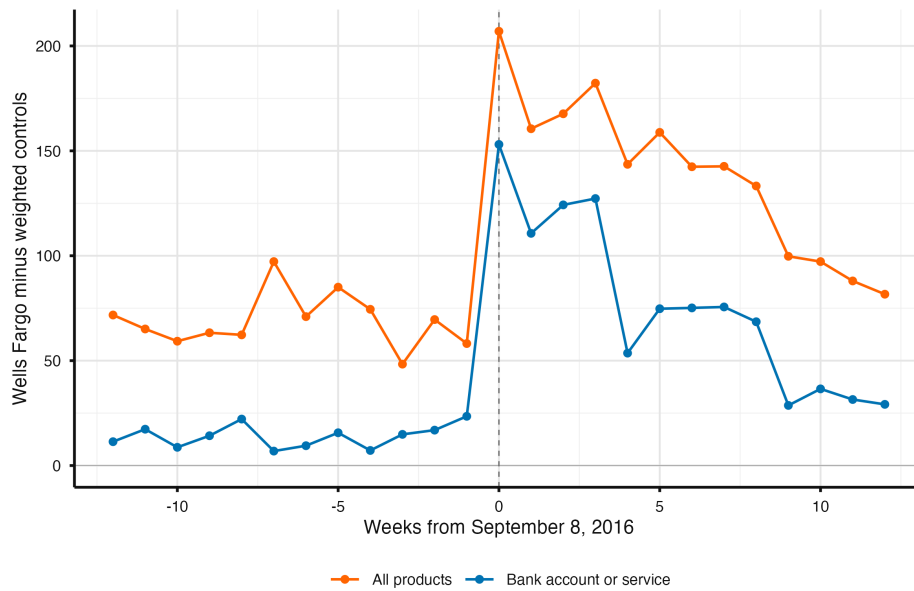
FIGURE B.5. Unweighted weekly complaint gap around public enforcement disclosure



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot the weekly gap between Wells Fargo and the unweighted mean control path for total complaints and *Bank account or service* complaints. Week 0 contains the public enforcement disclosure on September 8, 2016. [Table B.18](#) reports weighted SDiD estimates for the same event window.

FIGURE B.6. Weighted weekly complaint gap around public enforcement disclosure



Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Lines plot the weekly gap between Wells Fargo and the weighted control path, using short-window total-complaints SDiD donor weights; week 0 contains the September 8, 2016 disclosure. This is the weighted counterpart to the unweighted weekly timing figure.

TABLE B.20. Alternative comparison control groups

Control group	Outcome	Estimator	Effect	% pre mean	Rank	Rank value
G-SIB control group	Total complaints	SDiD	550.9 (123.8)	71.1	1/8	0.125
		DiD	600.1 (46.9)	77.4	1/8	0.125
	Bank account or service	SDiD	272.2 (67.2)	156.1	1/8	0.125
		DiD	312.0 (42.3)	178.9	1/8	0.125
Fed stress-test control group	Total complaints	SDiD	545.2 (62.7)	70.3	1/29	0.034
		DiD	569.9 (11.2)	73.5	1/29	0.034
	Bank account or service	SDiD	266.1 (43.5)	152.6	1/29	0.034
		DiD	287.3 (10.0)	164.8	1/29	0.034

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, Federal Reserve U.S. G-SIB source list, and Federal Reserve 2015 stress-test institutions.

Note: Effects are monthly complaint counts for Wells Fargo relative to the listed control group; post begins September 2016. For fixed-effect DiD rows, parenthetical standard errors are clustered by parent institution. For SDiD rows, parenthetical standard errors are placebo-based synthetic-control dispersion benchmarks. Because Wells Fargo is the single treated institution, inference comes from reassignment ranks rather than the parenthetical standard errors. Table reports the short window only and orders SDiD before DiD. % pre mean divides the effect by Wells Fargo's pre-period mean. Rank values follow the inference conventions in Section B. The G-SIB pool has seven controls, so its minimum attainable rank value is $1/8 = 0.125$; the stress-test pool has 28 matched controls, so its minimum is $1/29 = 0.034$. Wells Fargo is the single most extreme unit in each pool (position 1 of 8 and 1 of 29); the $1/8$ and $1/29$ rank-value floors are set by pool size, not by Wells Fargo's placement, and the short-window SDiD magnitudes stay within a few percent of the baseline CFPB-supervised estimates.

TABLE B.21. Analyst recommendation downgrades after the Wells Fargo enforcement disclosure

Window after disclosure	Wells Fargo downgrades	Wells Fargo net downgrades	Peer rank	Date-placebo p
14 days	2	1	1 of 20	0.167
30 days	3	2	1 of 20	0.076
45 days	3	2	1 of 20	0.109
60 days	3	2	1 of 20	0.138
90 days	7	5	1 of 20	0.007
120 days	7	5	1 of 20	0.035

Source: Institutional Brokers' Estimate System (IBES) recommendation-detail data, Center for Research in Security Prices (CRSP) security identifiers, Consumer Financial Protection Bureau (CFPB) public-company parent set, and authors' calculations.

Note: Rows count analyst-level recommendation changes after the September 8, 2016 Wells Fargo enforcement disclosure. Higher IBES recommendation codes are worse, so a downgrade is an increase in the recommendation code. Net downgrades equal downgrades minus upgrades. The peer rank compares Wells Fargo's downgrade count with the corresponding count for the 20 public CFPB parent firms matched to CRSP identifiers in the same post-disclosure window; ties at Wells Fargo's count are counted as at least as extreme. The date-placebo p -value reassigns the pseudo-event date across a weekly grid spanning the 2015–2018 IBES coverage window and reports the share of non-overlapping candidate windows whose Wells Fargo net-downgrade count is at least as large as the realized post-disclosure count. Restricting the date-placebo pool to candidate windows with at least five Wells Fargo recommendation actions leaves the 90-day window ranked first ($p = 0.036$); shorter windows are not unusual against Wells Fargo's own downgrade history. Replication of this cross-check requires licensed WRDS access.

TABLE B.22. Wells Fargo response-category composition

Response category	Period	Complaints	Share
Explanation	Pre	2128	85.7
Monetary relief	Pre	188	7.6
Non-monetary relief	Pre	139	5.6
Explanation	Post	3337	86.3
Monetary relief	Post	308	8.0
Non-monetary relief	Post	194	5.0

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.

Note: The table reports Wells Fargo complaints from June 1 through November 30, 2016. Shares are within period. The fields are descriptive company-response categories and report counts rather than dollars of relief.

TABLE B.23. Formal-claim scale relative to affected-account counts

Margin	Increment	Denominator	Increment share (%)	Baseline share (%)
Bank-account complaints	798	1,534,280	0.052	0.034
Credit-card product contrast	149	565,443	0.026	0.038

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, SDiD estimates, and federal Wells Fargo enforcement-order affected-account counts (Consumer Financial Protection Bureau 2016a, 5-7).

Note: Increment is the estimated monthly complaint increment multiplied by the three-month September–November 2016 post window. Increment share divides that estimated increment by the affected-account count. Baseline share divides Wells Fargo’s pre-period complaint flow over the same three-month horizon by the same denominator. These scale calibrations compare formal complaint flow with the affected-account counts in the enforcement order.

TABLE B.24. Single-product DDD estimates and placebo ranks, CFPB-supervised control group

Product	Win.	Effect	WFC pre	% pre	Prod. rank	Inst. rank	Rank value
Bank account or service	Short	256.7	174.3	147.2	1	2/76	0.026
	Long	140.7	188.8	74.6		1/76	0.013
Mortgage	Short	97.2	419.3	23.2	2	1/76	0.013
	Long	2.3	447.8	0.5		61/76	0.803
Credit card	Short	23.4	71.3	32.8	3	3/76	0.039
	Long	21.6	60.7	35.6		6/76	0.079

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Triple-difference effects compare Wells Fargo complaints in the listed product to all other products, relative to the control group. Because the comparison category pools all remaining products, the dominant bank-account response sits in the comparison pool for the mortgage and credit-card contrasts; main-text Table 6 reports the exclusion contrasts that remove the mechanically affected categories. WFC pre mean is Wells Fargo’s average monthly complaints in the listed product and pre-period window; % pre mean divides the DDD effect by that mean. With one treated institution, inference is placebo-based and conventional standard errors are omitted. Product rank orders short-window single-product DDD estimates by effect size. Institution rank values reassign treatment to each CFPB-supervised control institution, with Wells Fargo excluded from the placebo comparison sample. Rank values follow the inference conventions in Section B. Reading the ranks by window separates the durable response from transient attention. The bank-account contrast persists into the long window at 74.6 percent of its pre-period mean and ranks first, whereas the mortgage contrast fades to 0.5 percent of its pre-period mean and ranks 61/76. The short-window mortgage rank reflects the broad attention response across Wells Fargo products, which is real but transient, not a durable mortgage-claim channel.

TABLE B.25. Product-share decomposition of the Wells Fargo complaint increase

Product	Pre monthly	Post monthly	Change monthly	Share of increase %	Own % change
Bank account or service	174.3	458.0	283.7	50.2	162.7
Mortgage	419.3	558.7	139.3	24.6	33.2
Credit card	71.3	145.7	74.3	13.1	104.2
Consumer Loan	49.7	81.3	31.7	5.6	63.8
Student loan	16.7	46.0	29.3	5.2	176.0
Money transfers	3.0	6.7	3.7	0.6	122.2
Prepaid card	0.7	3.3	2.7	0.5	400.0
Other financial service	1.3	3.0	1.7	0.3	125.0

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.

Note: Rows decompose Wells Fargo's short-window complaint increase (September–November 2016 monthly mean minus June–August 2016 monthly mean) across CFPB product categories, ordered by the monthly change. Share of increase divides each product's change by the total change. Own % change divides each product's change by its own pre-period mean.

TABLE B.26. Product ranks, CFPB-supervised control group

Rank	Product	Effect
1	Bank account or service	256.7
2	Mortgage	97.2
3	Credit card	23.4
4	Consumer Loan	-22.1
5	Student loan	-24.3
6	Money transfers	-52.7
7	Prepaid card	-53.7
8	Other financial service	-54.8
9	Debt collection	-55.5
10	Payday loan	-56.3
11	Credit reporting	-57.8

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows rank all single-product DDD estimates by effect size in the short window, June–November 2016. Each DDD estimate compares Wells Fargo complaints in the listed product to all other products, relative to the CFPB-supervised control group. The *Bank account or service* product is the direct account-service margin.

TABLE B.27. Single-product DDD estimates and placebo ranks, G-SIB and stress-test control groups

Control group	Product	Window	Effect	Rank	Rank value
G-SIB control group	Bank account or service	Short	283.1	1/8	0.125
		Long	129.6	1/8	0.125
	Mortgage	Short	97.9	1/8	0.125
		Long	24.3	7/8	0.875
	Credit card	Short	17.8	2/8	0.250
		Long	8.3	7/8	0.875
Fed stress-test control group	Bank account or service	Short	259.1	2/29	0.069
		Long	136.1	1/29	0.034
	Mortgage	Short	97.0	1/29	0.034
		Long	7.5	18/29	0.621
	Credit card	Short	22.5	2/29	0.069
		Long	17.9	5/29	0.172

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, Federal Reserve U.S. G-SIB source list, and Federal Reserve 2015 stress-test institutions.

Note: Triple-difference effects compare Wells Fargo complaints in the listed product to all other products, relative to the listed control group. With one treated institution, inference is placebo-based and conventional standard errors are omitted. Rank values follow the inference conventions in [Section B](#). The G-SIB pool has seven controls, so its minimum attainable rank value is $1/8 = 0.125$; the stress-test pool has 28 matched controls, so its minimum is $1/29 = 0.034$. Rank-first results in these pools speak to magnitude consistency rather than conventional significance thresholds.

TABLE B.28. DDD product ranks, G-SIB and stress-test control groups

Control group	Rank	Product	Effect
G-SIB control group	1	Bank account or service	283.1
	2	Mortgage	97.9
	3	Credit card	17.8
	4	Consumer Loan	-25.8
	5	Student loan	-27.4
	6	Debt collection	-52.0
	7	Money transfers	-56.9
	8	Prepaid card	-57.9
	9	Other financial service	-58.0
	10	Payday loan	-59.5
Fed stress-test control group	1	Bank account or service	259.1
	2	Mortgage	97.0
	3	Credit card	22.5
	4	Consumer Loan	-22.9
	5	Student loan	-24.6
	6	Money transfers	-53.3
	7	Debt collection	-53.8
	8	Prepaid card	-54.0
	9	Other financial service	-55.2
	10	Payday loan	-56.6

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database, Federal Reserve U.S. G-SIB source list, and Federal Reserve 2015 stress-test institutions.

Note: Rows show the top single-product DDD estimates for each control group in the short window, June–November 2016. Each DDD estimate compares Wells Fargo complaints in the listed product to all other products, relative to the listed control group. The *Bank account or service* product is the direct account-service margin.

TABLE B.29. Issue composition, CFPB-supervised control group

Issue	WFC pre %	WFC post %	Control pre %	Control post %	DD pp	WFC Δ
Account opening, closing, or management	41.4	51.9	53.3	44.9	18.9	455
Problems caused by my funds being low	13.1	12.6	11.2	13.5	-2.7	94
Using a debit or ATM card	6.3	5.0	6.6	9.8	-4.6	30
Making/receiving payments, sending money	10.1	8.0	6.4	9.2	-4.8	49
Deposits and withdrawals	29.1	22.6	22.5	22.7	-6.7	135

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database issue field.

Note: Rows use bank-account-product complaints in the short analysis window. Issue labels are CFPB administrative fields selected by consumers and should be read as broad complaint categories, not audited legal determinations. WFC and control columns report each issue’s share of bank-account-product issue counts within the listed group and period. DD pp is the Wells Fargo post-minus-pre share change minus the corresponding control share change, in percentage points. WFC Δ is Wells Fargo’s raw post-minus-pre count change for the issue.

TABLE B.30. Credit-card-adjacent complaint categories around disclosure

Category	WFC pre monthly	WFC post monthly	WFC % change	Control % change
Credit-card non-identity issues	60.9	130.4	114.3	9.4
Credit-reporting product	1.2	0.4	-70.5	17.9
Credit-card identity theft/fraud issue	9.2	22.8	147.5	6.9

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database.

Note: Rows report day-count-adjusted monthly complaint flows in the June 1–November 30, 2016 window, with the pre/post split at September 8, for categories where unauthorized credit-card harms could be classified: the credit-card product, the credit-reporting product, and identity-theft or fraud issues within the credit-card product. A large response across these categories would indicate that the small credit-card product effect reflects classification rather than a small response.

TABLE B.31. Fuzzy duplicate threshold sensitivity

Threshold	Period	Narratives	Near-dup.	Near-dup. %	Pair count
0.80	Post	517	2	0.4	0
0.80	Pre	166	2	1.2	1
0.85	Post	517	0	0.0	0
0.85	Pre	166	2	1.2	1
0.90	Post	517	0	0.0	0
0.90	Pre	166	2	1.2	1
0.95	Post	517	0	0.0	0
0.95	Pre	166	2	1.2	1

Source: Consumer Financial Protection Bureau (CFPB)-published, consumer-consented narrative text from the Consumer Complaint Database.

Note: Near-duplicates are TF-IDF cosine-similar narrative pairs after lowercasing, digit and punctuation removal, whitespace normalization, tokenization, inverse-document-frequency weighting, and row normalization. Pair count is period-specific: it reports the number of within-period narrative pairs at or above the listed cosine-similarity threshold.

TABLE B.32. State-level Wells Fargo exposure gradient

Outcome	Exposure measure	Post × exposure	SE	<i>p</i>
log(1 + WFC complaints)	WFC branch share, 2016 SOD	0.675	(0.724)	0.356
WFC share of state complaints	WFC branch share, 2016 SOD	0.094	(0.184)	0.612
log(1 + WFC complaints)	WFC deposit share, 2016 SOD	0.898	(0.531)	0.096
WFC share of state complaints	WFC deposit share, 2016 SOD	0.135	(0.131)	0.310

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database state field and FDIC Summary of Deposits, 2016.

Note: Each row is a state-by-month regression over June–November 2016 with state and month fixed effects; the reported coefficient is on the post-disclosure indicator interacted with Wells Fargo’s 2016 branch or deposit share in the state. The share outcome is Wells Fargo complaints divided by Wells Fargo plus control complaints in the state-month. Standard errors are clustered by state.

TABLE B.33. Complaint growth by state exposure quartile

Exposure quartile	States	Mean WFC branch share %	WFC % change	Control % change
Q1	15	0.0	54.4	-11.3
Q2	15	1.0	75.8	-3.5
Q3	15	8.4	81.0	-3.5
Q4	14	17.3	70.4	1.4

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database state field and FDIC Summary of Deposits, 2016.

Note: States are grouped into quartiles of Wells Fargo’s 2016 branch share (Q4 highest). Cells report the percent change in monthly complaints from June–August to September–November 2016 for Wells Fargo and for control institutions in the same states.

TABLE B.34. Account-opening issue complaints at the largest control institutions

Institution	Pre monthly	Post monthly	Change	% change
Wells Fargo (treated)	72.0	236.3	164.3	228.2
Citigroup Inc.	348.0	80.7	-267.3	-76.8
Bank of America Corp.	115.3	124.7	9.3	8.1
JPMorgan Chase & Co.	73.3	103.0	29.7	40.5
Capital One Financial Corp.	19.3	25.7	6.3	32.8
Synchrony Financial	15.7	13.0	-2.7	-17.0
U.S. Bancorp	34.0	41.3	7.3	21.6
American Express Co.	5.3	4.3	-1.0	-18.8
PNC Financial Services Group Inc.	24.7	28.7	4.0	16.2
Discover Financial Services	9.7	7.0	-2.7	-27.6
SunTrust Banks Inc.	20.0	26.3	6.3	31.7
All 75 controls (pooled)	856.3	679.3	-177.0	-20.7

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database issue field.

Note: Rows report monthly *account opening, closing, or management* complaints within the bank-account product, June–August 2016 (pre) versus September–November 2016 (post), for Wells Fargo, the ten largest controls by pre-period complaint volume, and all 75 controls pooled. Positive control changes indicate same-direction spillovers; if such spillovers raise control-bank complaints in the implicated categories, the control group is partially treated and the Wells Fargo estimates are conservative. Six of the ten largest controls—Bank of America, JPMorgan Chase, Capital One, U.S. Bancorp, PNC, and SunTrust—show same-direction increases, the relevant spillover channel. The pooled all-controls total nonetheless falls, because Citigroup—which enters the window with an unusually high account-opening base of 348 complaints per month—declines by more than the entire net pooled change on its own. [Table B.35](#) re-estimates the effect with the most exposed retail controls removed and leaves it essentially unchanged.

TABLE B.35. SDiD estimates excluding controls with the greatest spillover exposure

Outcome	Control sample	Effect	% pre mean
Total complaints	All 75 controls	547.7	70.6
	Excluding five largest retail controls	567.0	73.1
Bank account or service	All 75 controls	265.9	152.5
	Excluding five largest retail controls	275.2	157.9

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: The leave-out rows re-estimate the short-window SDiD specification after excluding the five largest branch-network retail depositories (Bank of America, JPMorgan Chase, Citigroup, U.S. Bancorp, PNC), the controls most plausibly exposed to cross-selling spillovers; the exclusion rule was fixed before estimation.

TABLE B.36. De-duplicated complaint-count SDiD robustness

Outcome	Sample	Effect	% pre mean
Total complaints	All records (baseline)	547.7	70.6
	Exact-duplicate records removed	551.4	71.9
Bank account or service	All records (baseline)	265.9	152.5
	Exact-duplicate records removed	266.1	152.6

Source: Consumer Financial Protection Bureau (CFPB) Consumer Complaint Database and CFPB-supervised large-depository control group.

Note: Rows re-estimate the short-window SDiD specification after removing exact-duplicate complaint records. The main outcome retains duplicates because the estimand is formal filing activity. Duplicates are records sharing parent unit, received date, product, sub-product, issue, sub-issue, state, ZIP, submission channel, and narrative text with an earlier record. In the short window the duplicate share is 1.1 percent for Wells Fargo pre-disclosure, 0.4 percent for Wells Fargo post-disclosure, and 0.9 percent for controls post-disclosure.