

Banking Fraud & Corporate Misconduct: *Do Regulatory Penalties Change Bank Behavior?*

DS2500 - Team Project Final Report

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Section: 1

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1. Introduction

Goal of the Project

This project analyzes consumer banking complaints to examine whether banks with major enforcement actions show different complaint patterns and whether complaint types and responses vary across major U.S. institutions.

Problem Statement & Background

Banking fraud and corporate misconduct are recurring problems rather than isolated scandals. Cases such as the 2008 housing crisis, Wells Fargo's fake-accounts scandal, and TD Bank's 2024 money-laundering penalty show how harmful bank behavior can affect ordinary consumers. This project asks whether major regulatory penalties appear to change bank behavior or whether harmful complaint patterns continue afterward. To study that question, the analysis uses consumer complaints submitted to the Consumer Financial Protection Bureau (CFPB), which provide a direct view of the problems customers report. By comparing complaint trends and

complaint types across several large banks, the project looks for signs that consumer harm persists even after high-profile enforcement actions.

Why This Matters

This topic matters because large-bank misconduct affects everyday consumers, including many college students who rely on checking accounts, credit cards, and loans. When harmful practices are not effectively deterred, the costs can include lost money, damaged credit, time spent resolving disputes, and reduced trust in financial institutions. Better evidence about complaint patterns after enforcement can help regulators evaluate whether penalties are working and help consumers understand where risks may remain.

2. Dataset

Dataset Overview

- **Source:** CFPB Consumer Complaint Database API:
<https://www.consumerfinance.gov/data-research/consumer-complaints/search/api/v1/>
- **Time Period:** May 29, 2024 to September 4, 2024
- **Size:** 35,000 complaint records across seven banks, with about 20 features per record
- **Format:** JSON collected through the API and converted to CSV for analysis

Data Collection Methodology

The CFPB collects complaints submitted by consumers through its website, phone, or mail and forwards them to the company involved for response. For this project, data was pulled programmatically through the CFPB API, with up to 5,000 complaints collected per bank for

Wells Fargo, Bank of America, Chase, Citibank, Capital One, US Bank, and TD Bank. FDIC and OCC materials were also reviewed to provide context for the Wells Fargo, Bank of America, and TD Bank enforcement cases discussed in the report.

Key Variables

Variable Name	Description	Type	Example Values
product	Broad complaint category	Categorical	Checking or savings account
issue	Specific issue within a product	Categorical	Managing an account
date_received	When the CFPB received the complaint	Date	2024-08-15
state	Consumer's state	Categorical	TX, CA, NY
company_response	How the company responded	Categorical	Closed with explanation
bank_display	Clean name of the bank involved	Categorical	Wells Fargo
has_narrative	Whether a consumer narrative was provided	Boolean	True, False

Ethical Considerations

The CFPB removes personal identifiers such as names and account numbers before releasing complaint data publicly, which reduces privacy concerns. However, the data still reflects reporting bias because not every harmed consumer files a complaint, and the four-month window is short for long-term analysis. A filed complaint also does not necessarily prove that a bank committed wrongdoing.

3. Methods

Data Preprocessing/Preparation

Complaints were collected one bank at a time using API pagination and then merged into a single dataset. Because the CFPB API requires exact company names, a mapping was created between official bank names and cleaner display labels used in the analysis.

Exploratory Data Analysis

The analysis used summary statistics, cross-tabulations, and monthly trend comparisons. Counts and percentages by bank, product, and issue type showed that checking accounts, credit cards, and credit reporting made up more than 82% of all complaints. Cross-bank comparisons highlighted differences such as Wells Fargo having a much larger share of checking-account complaints than Citibank. Complaint response distributions and visualizations were also used to compare bank behavior.

Modeling & Evaluation

Predictive modeling was not used because the project did not have a clear prediction target and the four-month window was too short for longitudinal modeling. Descriptive and comparative methods were more appropriate for answering the central question. Findings were checked across raw counts, percentages, issue breakdowns, and external enforcement context to confirm that the main patterns were consistent.

4. Results & Conclusions

Key Findings

Finding 1: Three complaint categories dominate the dataset. Checking and savings accounts (28.4%), credit cards (27.3%), and credit reporting (27.0%) together account for over 82% of all 35,000 complaints. As shown in Figure 1, this pattern appears across all seven banks, suggesting broad industry-wide complaint concentrations even though the exact proportions differ by institution.

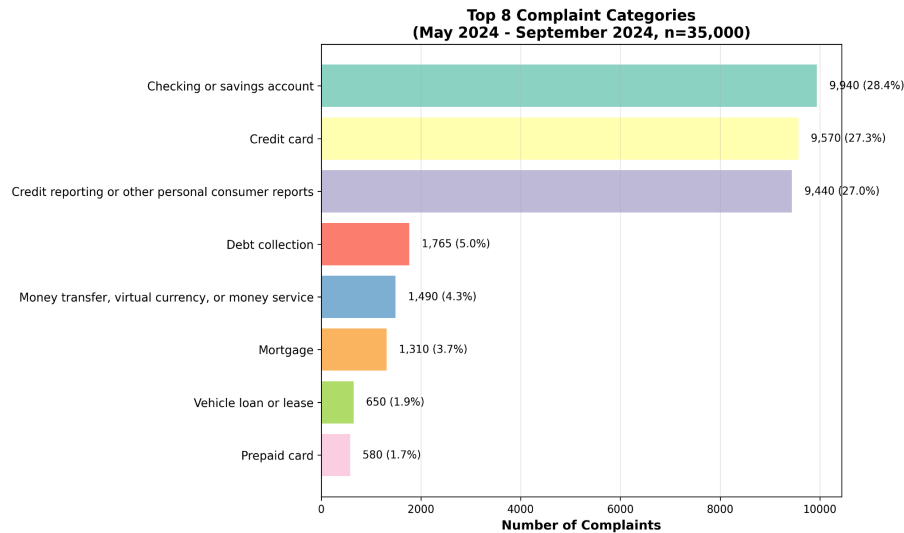


Figure 1: *Top complaint categories across all seven banks. Checking/savings, credit cards, and credit reporting make up over 82% of all complaints.*

Finding 2: Wells Fargo stands out in checking-account complaints. As shown in Figure 2, Wells Fargo's checking and savings account complaints make up 45.5% of its total, the highest share in the dataset, compared with 36.0% for Chase, 33.9% for Bank of America, and 10.8% for Capital One. Because the 2016 Wells Fargo scandal specifically involved unauthorized checking and savings accounts, the fact that the same product category still dominates complaints eight years later is notable, even though the data cannot prove causation.

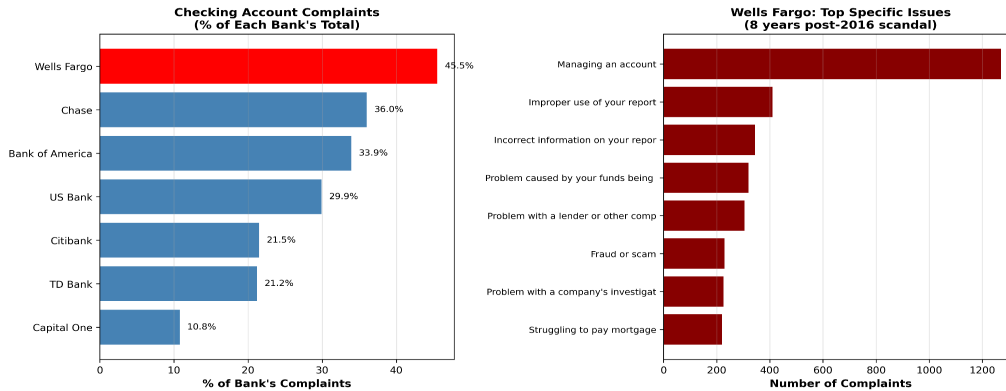


Figure 2: Wells Fargo checking-account complaint share compared to peers, plus its top specific complaint issues.

Finding 3: Banks differ in how they respond to complaints. The most common response overall was "closed with explanation," but banks varied in monetary relief rates. Bank of America provided monetary relief on 25.8% of complaints, while Capital One did so on 4.6%; Wells Fargo provided monetary relief on 9.2% and closed 79.2% of complaints with explanations only. These differences suggest that complaint outcomes depend substantially on which bank is involved.

Finding 4: TD Bank provides a useful pre-penalty baseline. As shown in Figure 3, the complaint window ends just before TD Bank's \$3.09 billion October 2024 penalty. TD Bank's complaints were led by credit reporting (34.0%), credit cards (28.3%), and checking accounts (21.2%), giving the project a baseline for future before-and-after study.

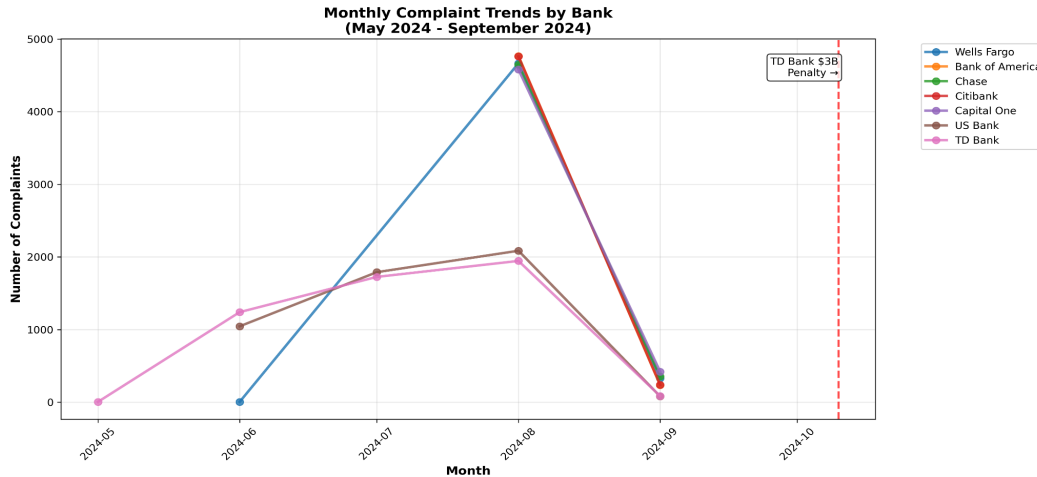


Figure 3: Monthly complaint trends for all seven banks over the study period, with TD Bank's October 2024 penalty marked after the data window.

Conclusions

The results suggest that major penalties do not automatically eliminate complaint concentrations associated with past misconduct. Wells Fargo still shows an unusually high share of checking-account complaints eight years after its fake-accounts scandal, while response patterns also vary meaningfully across banks. At the same time, the short data window means the project cannot determine long-term trend changes or make causal claims. Overall, the CFPB complaint database is a useful bottom-up tool for monitoring possible consumer harm across banks.

5. Future Work & Limitations

Limitations of Current Analysis

This study is limited by its four-month time window, which prevents long-term before-and-after analysis. The CFPB database also reflects only consumers who choose to complain, which introduces reporting bias, and a filed complaint does not necessarily confirm wrongdoing. In

addition, the project used roughly 5,000 complaints per bank rather than the full complaint universe, and raw complaint counts were not normalized by bank size. Because the analysis is descriptive, it identifies patterns but cannot prove what caused them.

Future Research Directions

Future work should extend the dataset to multiple years so that major enforcement events can be studied before and after they occur. Re-pulling TD Bank data after October 2024 would be especially valuable. Other next steps include normalizing complaints by customer base size, applying natural language processing to complaint narratives, and expanding the analysis to regional banks, credit unions, and fintech firms.

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