

Overdraft and NSF Practices at Very Large Financial Institutions

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1. Introduction

This report documents recent findings from the Consumer Financial Protection Bureau (CFPB) on the costs and losses to certain very large financial institutions of issuing overdraft¹ (OD) credit. The findings are based on data collected using the CFPB's supervisory authority. We estimate that the average marginal cost and losses of overdrafts for the financial institutions (FIs) in our sample ranges from an average of \$3 to \$14 per overdraft transaction depending on various factors, such as the cost and loss categories, transaction types, and balance tier that are included in the calculation. The report also describes non-sufficient funds (NSF) practices at these FIs, such as the frequency of NSF transactions, the share of NSF transactions assessed a fee, and the share of NSF fees assessed on accounts with overdraft coverage.

Data Source

In March of 2023, the CFPB issued supervisory information requests (SIR) to eight financial institutions, each with more than \$10 billion in assets, asking for data, information, and documents on OD and NSF incidence, costs and losses, fees and revenues, and amounts charged off after overdraft credit is extended. With regard specifically to costs and losses, the CFPB asked the FIs to describe how they conducted checking profitability analysis, asking for data and information on specific revenue, cost and loss categories tracked by each financial institution that fed into such analyses. The CFPB then asked for data and information on all direct cost and loss categories, allocated variable cost and loss categories, and allocated fixed cost categories and requested that the FIs explain the process used for any allocated revenue, cost or loss categories. The CFPB asked the recipients of the SIR to use calendar year 2022 as the pertinent review period. The eight financial institutions of various sizes include seven banks and one credit union and are found across the United States.

The data requested included metrics on incidents, revenue, and costs by OD opt-in status,² average balance category, and month.³ The CFPB also asked for a description of how financial institutions set OD fees and conduct profitability analysis at the checking account product level.

¹ OD describes situations where a financial institution determines that a consumer has insufficient or unavailable funds in their account to cover an attempted withdrawal, debit, payment, or transfer transaction but the financial institution covers the transaction, thereby extending credit to the consumer. The term does not include any payment of overdrafts pursuant to a line of credit subject to Regulation Z.

² OD opt-in status is defined in relation to an account holder's election regarding Regulation E Opt-In requirement under Regulation E. 12 CFR 1005.17(b).

³ Due to the highly sensitive nature of the supervisory information discussed in this report, the findings presented generally do not provide any monthly financial institution-level results as doing so would risk revealing the identity of the underlying financial institution.

The CFPB received data from all eight financial institutions, but some were not able to provide all the requested data at the level of detail requested. Most numbers referenced below that relate to the cost of charging off OD credit extended that is not paid back by account holders are based on data from five banks. Data was reported at the level of the checking account product, and altogether the data from these five financial institutions include data on 19 distinct checking account products.

2. Cost and losses of issuing overdraft credit

Based on market intelligence and on data and documentation produced in response to the SIR, the CFPB concludes that the cost of providing OD credit is driven largely by credit losses and other traceable costs. Also, in a previous study published in 2013, the CFPB identified charged off account balances as the single largest cost associated with overdraft programs.⁴ The CFPB estimates the cost of OD by summing the direct cost of historical OD episodes (charge-off amounts and estimates of the cost of funds), and a margin for overhead costs.

Charge-off amounts

Table 1 below presents statistics for the checking account products held by the five FIs that provided usable data on charge-offs.⁵ The table provides metrics for all accounts, for accounts with low average balances (at or less than \$500 on average during 2022), and for accounts with high average balances (at or more than \$1,500 on average during 2022). Table 1 also presents these metrics for the FI with the highest average charge-off amount (across all transactions) and for the FI with the lowest average charge-off amount (across all transactions).

As shown in Table 1 below, the average overdrawn amount charged off per OD transaction, regardless of whether a fee was charged, is \$2.00 for the entire population of accounts from the five FIs from which we have the relevant data. There is variation both across the five FIs and across consumer checking products offered by the same FI.⁶ The average loss per transaction is almost three times as high (\$5.34) if we include only the transactions charged an overdraft fee, which follows from the fact that a majority of overdrawing transactions were not charged a fee at these financial institutions. Looking at the FI that exhibits the highest charge-off costs, the average charge-off amount for OD transactions regardless of whether a fee was assessed is \$5.54. For the same FI, the average charge-off amount over all accounts for OD transactions that were assessed a fee is \$12.54, while for the subset of accounts with low average balances, again for OD transactions assessed a fee, it is \$15.88.

⁴ CFPB, 2013, “CFPB Study of Overdraft Programs: A White Paper of Initial Data Findings” (https://files.consumerfinance.gov/f/201306_cfpb_whitepaper_overdraft-practices.pdf).

⁵ The results reported on in Table 1 are calculated using the March–December 2022 period because certain FIs reported losses for January and February only on accounts that were active during the review period (calendar 2022). Most charge-off losses incurred in those two months were on accounts that were inactive in those months and thus those FIs did not include them.

⁶ To maintain confidentiality, we do not report summary statistics at the checking product level.

TABLE 1: CHARGE-OFF AMOUNTS FOR SELECT CATEGORIES

	All five financial institutions			Financial institution with highest charge-off amounts			Financial institution with lowest charge-off amounts		
	All accts	Low average balance	High average balance	All accts	Low average balance	High average balance	All accts	Low average balance	High average balance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Number of accounts (MN) ⁷	>15M	5M-10M	>15M	2-5M	<1M	2M-5M	5M-10M	1M-2.5M	2M-5M
Average number of fees per account	1.6	5.3	0.3	2.1	7.1	0.3	1.4	5.2	0.3
Percent eligible opted-in to Reg E	23.9%	24.5%	22.6%	24.5%	24.4%	23.4%	22.3%	21.9%	22.3%
Average overdraft charge-off per overdraft transaction regardless of fee (\$)	\$2.00	\$2.14 ⁸	\$0.48 ⁹	\$5.54	—	—	\$0.30	\$0.55	\$0.12
Average overdraft charge-off per overdraft transaction when a fee was charged (\$)	\$5.34	\$7.31	\$1.79	\$12.54	\$15.88	\$4.31	\$0.86	\$1.28	\$0.53

Leveraging the information on the number of accounts associated with the various categories, which for confidentiality reasons are not published here, we can calculate whether each product would have had average cost and loss amounts higher than any given dollar value during 2022. This permits us to describe the percent of checking products – weighted by number of accounts – that would have average cost and loss amounts higher than specific benchmarks, which is shown in Table 2.

The percentages in the table are generated using charge-off losses plus an estimate of cost of funds and overhead, which are assumed to be \$1.00 per OD transaction as discussed in the subsequent sections of this report. While we have data on charged-off amounts by account subcategories and separately we have data on number of OD transactions with a fee and OD transactions regardless of whether a fee was charged, we do not have data on charged-off amounts broken out by whether there was a fee charged on the transaction. The percentages reported below provide insight about how the distribution of costs and losses under current practices compares to different benchmarks.

⁷ Table 1 does not include precise data on number of accounts to avoid re-identification risk.

⁸ This number is calculated using four out of five FIs because of partial data submissions.

⁹ This number is calculated using two out of five FIs because of partial data submissions.

TABLE 2: PERCENT OF CHECKING PRODUCTS THAT HAVE AVERAGE CHARGE-OFF AMOUNTS PLUS ESTIMATED COST OF FUNDS AND OVERHEAD ABOVE FOUR BENCHMARK NUMBERS, WEIGHTED BY NUMBER OF ACCOUNTS. (Calculated for overdraft transactions with a fee)

	All five financial institutions			
	Using \$3 benchmark	Using \$6 benchmark	Using \$7 benchmark	Using \$14 benchmark
	(1)	(2)	(3)	(4)
All accounts (%)	78.4%	56.0%	10.4%	1.5%
All low average balance accounts (%)	83.1%	75.5%	60.4%	3.7%
All high average balance accounts (%)	53.6%	2.5%	2.5%	0.0%

More than three quarters (78.4%) of the accounts the CFPB requested data about were from checking products that reported estimated costs and losses (inclusive of charge off losses, estimated costs of funds and estimated overhead costs) higher than \$3 per overdraft transaction charged a fee. More than four out of every five (83.1%) accounts with an average balance at or below \$500 were from products for which this customer segment generated costs and losses per overdraft charged a fee larger than \$3. For \$6, the analogous shares are 56.0% and 75.5%, respectively. At \$14, almost all accounts were from products with estimated costs and losses below the benchmark. These percentages are calculated using overdraft transactions that were charged a fee. Table 2 helps to characterize the distribution of costs and losses of overdraft programs at the financial institutions that provided data.

Table 3 below reports the percent of checking products – weighted by number of accounts – that would have average costs and losses (inclusive of average charge off losses, estimated costs of funds and estimated overhead costs) higher than specific benchmarks, using average charge off amounts calculated using all OD transactions, regardless of whether an OD fee was charged.

TABLE 3: PERCENT OF CHECKING PRODUCTS THAT HAVE AVERAGE CHARGE-OFF AMOUNTS PLUS ESTIMATED COST OF FUNDS AND OVERHEAD ABOVE FOUR BENCHMARK NUMBERS, WEIGHTED BY NUMBER OF ACCOUNTS. (Calculated for all overdraft transactions regardless of fee)

	All five financial institutions			
	Using \$3 benchmark	Using \$6 benchmark	Using \$7 benchmark	Using \$14 benchmark
	(1)	(2)	(3)	(4)
All accounts (%)	56.7%	1.5%	1.5%	0.0%
All low average balance accounts (%) ¹⁰	48.1%	0.0%	0.0%	0.0%
All high average balance accounts (%) ¹⁰	0.0%	0.0%	0.0%	0.0%

¹⁰ The results reported in this row are affected by partial data submission.

The numbers in Table 3 are similar, albeit somewhat smaller, than the corresponding numbers shown in Table 2. This is due to the estimated costs and losses being driven largely by charge offs, the total value of which does not change between Table 2 and Table 3. Allowing for additional costs of funds and overhead for overdraft transactions that were not assessed a fee increases the cost somewhat, but by substantially less than even the smallest, \$3 benchmark fee. Using the \$3 benchmark, 56.7 percent of all accounts are from checking products with costs and losses greater than \$3 per overdraft transaction. This declines to just 1.5% under the \$6 benchmark, and to 0% under the \$14 benchmark.

In Table 4 we also report the total estimated costs and losses (inclusive of total charge off losses and the estimated cost of funds and overhead) at the checking product level, alongside an estimate of what OD fee revenue would be under the different benchmarks, where the fee revenue is calculated as the number of OD transactions with a fee observed in the data multiplied by the four benchmark values. For purposes of creating this table we assume that charge-off losses and the number of OD transactions with a fee observed in the data stay the same under the different benchmarks.

TABLE 4: COMPARING ESTIMATED COST AND LOSSES OF OVERDRAFT SERVICES TO ESTIMATED FEE REVENUE UNDER DIFFERENT BENCHMARKS FOR OVERDRAFT TRANSACTIONS WITH A FEE

Consumer checking product (CCP)	Number of overdraft transactions with a fee	Total charge-off losses plus estimated costs from overdraft transactions charged a fee (\$)	Estimated revenue from currently charged transactions under \$3 benchmark (\$)	Estimated revenue from currently charged transactions under \$6 benchmark (\$)	Estimated revenue from currently charged transactions under \$7 benchmark (\$)	Estimated revenue from currently charged transactions under \$14 benchmark (\$)
	(1)	(2)	(3)	(4)	(5)	(6)
CCP_01	4,569	18,217	13,707	27,414	31,983	63,966
CCP_02	4,636	10,775	13,908	27,816	32,452	64,904
CCP_03	14,004	47,887	42,012	84,024	98,028	196,056
CCP_04	16,162	42,345	48,486	96,972	113,134	226,268
CCP_05	87,448	1,001,863	262,344	524,688	612,136	1,224,272
CCP_06	129,901	439,801	389,703	779,406	909,307	1,818,614
CCP_07	167,835	779,908	503,505	1,007,010	1,174,845	2,349,690
CCP_08	268,515	775,106	805,545	1,611,090	1,879,605	3,759,210
CCP_09	271,265	1,259,313	813,795	1,627,590	1,898,855	3,797,710
CCP_10	422,514	1,321,273	1,267,542	2,535,084	2,957,598	5,915,196
CCP_11	528,746	5,336,318	1,586,237	3,172,474	3,701,219	7,402,438
CCP_12	2,538,816	4,012,753	7,616,448	15,232,896	17,771,712	35,543,424
CCP_13	3,214,744	75,661,264	9,644,233	19,288,466	22,503,210	45,006,420
CCP_14	3,438,548	13,206,814	10,315,644	20,631,288	24,069,836	48,139,672
CCP_15	3,915,846	8,264,354	11,747,538	23,495,076	27,410,922	54,821,844
CCP_16	4,547,607	25,040,108	13,642,821	27,285,642	31,833,248	63,666,496
CCP_17	4,707,175	8,262,376	14,121,525	28,243,050	32,950,224	65,900,448
CCP_18	4,842,410	36,720,864	14,527,230	29,054,460	33,896,872	67,793,744
CCP_19 ¹¹	NR	NR	46.7%	93.4%	108.9%	217.9%
All CCPs but CCP_19	29,120,741	182,201,339	87,362,223	174,724,446	203,845,186	407,690,372

Of the 18 consumer checking products fully displayed in Table 4, six consumer checking products would have OD revenue greater than OD costs and losses at the \$3 benchmark, fourteen at the \$6 and \$7 benchmarks, and seventeen at the \$14 benchmark. As a percent of OD revenue calculated as each benchmark amount multiplied the number of overdraft transactions charged a fee, overdraft profit margins remain fairly large for most consumer checking products at the \$6, \$7, and \$14 benchmarks. Pooling data for the 18 checking accounts, at the \$7 benchmark, the profit margin as a percent of estimated OD revenue would be 10.6% and at the \$14 benchmark the profit margin rises to 55.3%.

¹¹ To avoid re-identification risk, we are not reporting (NR) the data in the first three columns of Table 4 for CCP_19 and are instead reporting the percent of estimated costs and losses that estimated OD fees under each of the four benchmarks represents (i.e., this is calculated by dividing estimated revenue in each of columns 3-6 by the value in column 2 and multiplying by 100).

To reflect the potential profitability of transactions the financial institutions’ policies result in paying, Table 5 reports the analogous calculations but includes losses/costs and revenue estimates based on all overdraft transactions, regardless of whether a fee was charged. Column 1 includes all overdraft transactions, column 2 includes cost estimates for these same overdraft transactions, and columns 3 through 6 include estimates of fee revenue for all overdraft transactions regardless of whether there was a fee under the different benchmarks.

TABLE 5: COMPARING ESTIMATED COST AND LOSSES OF OVERDRAFT SERVICES TO ESTIMATED FEE REVENUE UNDER DIFFERENT BENCHMARKS FOR OVERDRAFT REGARDLESS OF WHETHER A FEE IS CHARGED

Consumer checking product (CCP)	Number of overdraft transactions regardless of fee	Total charge-off losses plus estimated costs from overdraft transactions regardless of fee (\$)	Estimated revenue from overdraft transactions under \$3 benchmark (\$)	Estimated revenue from overdraft transactions under \$6 benchmark (\$)	Estimated revenue from overdraft transactions under \$7 benchmark (\$)	Estimated revenue from overdraft transactions under \$14 benchmark (\$)
	(1)	(2)	(3)	(4)	(5)	(6)
CCP_01	4,569	18,217	13,707	27,414	31,983	63,966
CCP_02	4,782	10,921	14,346	28,692	33,474	66,948
CCP_03	26,139	60,022	78,417	156,834	182,973	365,946
CCP_04	17,171	43,354	51,513	103,026	120,197	240,394
CCP_05	87,448	1,001,863	262,344	524,688	612,136	1,224,272
CCP_06	149,753	459,653	449,259	898,518	1,048,271	2,096,542
CCP_07	379,808	991,881	1,139,424	2,278,848	2,658,656	5,317,312
CCP_08	1,388,233	1,894,824	4,164,699	8,329,398	9,717,631	19,435,262
CCP_09	336,350	1,324,398	1,009,050	2,018,100	2,354,450	4,708,900
CCP_10	422,514	1,321,273	1,267,542	2,535,084	2,957,598	5,915,196
CCP_11	1,194,423	6,001,996	3,583,269	7,166,538	8,360,961	16,721,922
CCP_12	8,178,060	9,651,997	24,534,180	49,068,360	57,246,420	114,492,840
CCP_13	7,296,274	79,742,792	21,888,822	43,777,644	51,073,920	102,147,840
CCP_14	8,800,495	18,568,760	26,401,484	52,802,968	61,603,464	123,206,928
CCP_15	9,982,005	14,330,512	29,946,016	59,892,032	69,874,032	139,748,064
CCP_16	15,773,166	36,265,668	47,319,496	94,638,992	110,412,160	220,824,320
CCP_17	13,304,530	16,859,732	39,913,592	79,827,184	93,131,712	186,263,424
CCP_18	10,926,246	42,804,704	32,778,738	65,557,476	76,483,720	152,967,440
CCP_19 ¹²	NR	NR	76.58%	153.15%	178.68%	357.36%
All CCPs but CCP_19	78,271,966	231,352,567	234,815,898	469,631,796	547,903,758	1,095,807,516

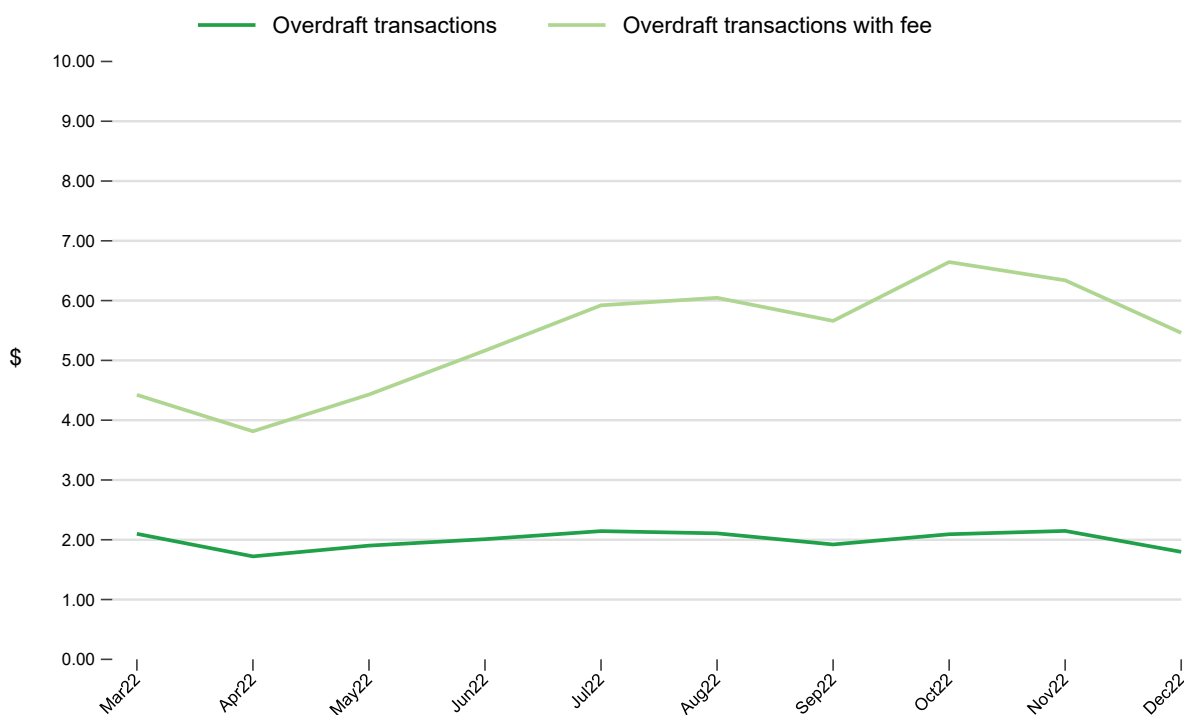
Of the 18 consumer checking products fully displayed in Table 5, ten consumer checking products would have OD revenue greater than OD costs and losses at the \$3 benchmark, sixteen

¹² To avoid re-identification risk, we are not reporting (NR) the data in the first two columns of Table 5 for CCP_19 and are instead reporting the percent of estimated costs and losses that estimated OD fees under each of the four benchmarks represents (i.e., this is calculated by dividing estimated revenue in each of columns 3-6 by the value in column 2 and multiplying by 100).

at the \$6 and \$7 benchmarks, and eighteen at the \$14 benchmark. Pooling data for the 18 checking accounts, at the \$3 benchmark, the profit margin as a percent of estimated OD revenue would be 1.5% and at the \$7 benchmark the profit margin rises to 57.8%.

Figure 1 below depicts the trend in the ratio of average charge-off amounts in a given month to the number of OD transactions in the same month for the five FIs that provided usable charge-off data. In this graph we track a version of the ratio that uses all OD transactions in a month in the denominator as well as a second version of the ratio for which the denominator is the number of OD transactions with a fee. Not shown in the graph are the trend lines for accounts with an average balance at or below \$500, or for those accounts with an average balance at or above \$1,500, neither of which exhibit a markedly different pattern.

FIGURE 1: AVERAGE CHARGE-OFF AMOUNT IN A GIVEN MONTH RELATIVE TO THE NUMBER OF OVERDRAFT TRANSACTIONS IN THE SAME MONTH.



Cost of funds

Given the small size and short duration of typical overdraft episodes, the CFPB does not expect the financial institution’s cost of funds to be large. When asked about cost categories in the SIR, none of the eight FIs identified cost of funds as among the expenses they track for consumer checking products.

The CFPB has preliminarily determined that the cost of funds for the average overdrawing transaction is likely to be less than \$0.50. For example, a \$0.50 estimate reflects the cost of lending an OD amount of \$120 dollars for an entire month funded at an annual rate of 5%.¹³ This is a conservative estimate because data have shown the median transaction amount that results in an overdraft is only \$50, and that overdrafts are typically repaid three days later.¹⁴

Overhead

From a qualitative perspective, the eight FIs included the following additional costs to overdraft services in their narrative responses: (1) servicing expenses, including the costs associated with responding to inquiries and client communications related to OD transactions and OD fees; (2) establishing and maintaining financial centers, ATM networks, and digital and mobile banking capabilities; (3) processing transactions; and (4) protecting against and handling fraudulent transactions.

None provided quantified cost estimates for these items or for, more generally, setting up or maintaining an OD program. Five FIs produced a spreadsheet with cost and revenue data for checking account products, however none indicated what share of these costs was attributable to providing OD services or to NSF transactions.

One FI stated that it does not track specific expenses associated with NSF and overdraft transactions. Another FI wrote that it does not maintain information about the costs specifically attributable to overdraft or NSF transactions, and yet another FI mentioned that in general, expenses are not allocated to services (e.g., overdraft, payments) used by each account, which means that the FI is unable to provide all of the expenses attributable to NSF transactions and overdraft coverage.

Even though the FIs that received the CFPB's SIR did not quantify overhead costs of providing OD services, the CFPB has preliminarily determined that any estimate of the cost of providing OD services should reasonably include costs such as the additional call center costs associated with the share of OD transactions or OD fees that require some form of human intervention. Assuming that 10% of overdraft transactions currently require 10 minutes of a customer service representative's time, and that 20% of these require an additional 10 minutes of their immediate supervisor's, we estimate that the average marginal cost of an overdraft transaction attributable

¹³ The average prime rate over the last ten years was 4.13%.

¹⁴ https://files.consumerfinance.gov/f/201407_cfpb_report_data-point_overdrafts.pdf.

to customer service is approximately \$0.45.¹⁵ If we were to include additional costs of running overdraft operations for a checking product, then the marginal cost could reasonably rise to \$0.50.

Fees, revenue, and overdraft limits

Using data from the five FIs, the average fee per OD transaction for which a fee was charged is \$32.50. This average is calculated by taking total revenue from OD summed over the five FIs for which we have data divided by the total number of transactions at the same five FIs for which an OD fee was charged.

All eight FIs provided data on total OD fee revenue and total number of accounts. Based on these data, the average OD fee revenue per account per month is calculated as \$3.77. In our sample of eight FIs, in six cases the average OD revenue per account per month is within one standard deviation of the overall average.

In their narrative responses the eight FIs stated that OD fees are set using factors such as: (1) the direct and indirect cost of offering OD services, (2) a deterrence effect, (3) positioning with respect to other competitors, (4) customer feedback, experiences, and utility, (5) regulatory requirements and (6) safety and soundness concerns.

With regards to setting OD limits, the eight FIs included the following criteria in their narrative responses: (1) age of the account, (2) available balance, (3) account transaction activity and history, (4) standing of the account, and (5) existence of direct deposits. Three FIs mentioned the use of automated systems to adjust OD coverage limits on a periodic schedule using the above-mentioned factors. One FI stated that in general accounts are assigned OD limits that range between a pre-determined minimum and maximum and that the overdraft limit is not disclosed to accountholders.

Profitability analysis

In the SIR that were sent out in March of 2023, the CFPB requested that the eight FIs describe how they conducted profitability analysis with regards to the checking account products covered by the SIR with specific emphasis on the basis used to conduct the analysis (i.e., account-by-

¹⁵ The CFPB assumed an average hourly wage of \$21.07 and \$30.81 for customer service representatives and supervisors in the financial sector, respectively (U.S. Bureau of Labor Statistics, Occupational Employment and Wage Statistics, May 2022 National Industry-Specific Occupational Employment and Wage Estimates NAICS 5220A1 – Credit Intermediation and Related Activities (5221 and 5223 only), https://www.bls.gov/oes/current/naics4_5220A1.htm.)

account), the cost and revenue categories that fed into the profitability analysis, and as applicable, the process used for any allocated revenue or cost categories.

While some FIs reported that they conducted profitability analysis at the account level, line of business level and, sometimes, household or customer level, others reported that they conducted profitability analysis at the checking account product level. One FI reported that it did not perform product-level or account-by-account level profitability analysis during the review period. One FI stated that it conducted profitability analysis at the checking account level, but that it used this analysis as an input in the aggregate portfolio profitability analysis that it conducted on a monthly cadence. This same FI reported that in performing its profitability analysis, it used assumptions to allocate income and expenses at the account level where direct data is not available.

Most FIs provided a list of the interest and non-interest income categories they consider as well as the expenses that they incorporated in conducting their profitability analysis. Though these categories did not coincide exactly across the FIs, on the income side they include items like net interest income, net fee income, ATM and debit cards fees, digital banking fees, OD fees, NSF fees, wire transfer fees, international banking fees, and other miscellaneous fees. On the expense side, the FIs that provided detailed information referenced categories such as: credit cost, direct product related expenses, variable and fixed fulfillment and servicing costs, and in some cases allocated cost categories that included overhead, direct and overhead expenses, allocated network, digital channel and technology expenses.

3. NSF practices

NSF transactions

NSF transactions occur when the FI returns unpaid a transaction, most commonly a check or automated clearinghouse (ACH) transaction, presented against a consumer's account that is for an amount greater than the available funds in the account. They differ from overdraft transactions because the FI opts not to pay the attempted transaction after determining that the consumer has insufficient funds. Across all 8 FIs, consumer checking products, and average balance groups, we observe an average of 0.64 NSF transactions per account during 2022 (see Table 3).

Average consumer checking account balance is an important determinant of whether there are sufficient funds available to cover a transaction. We observe more than 20 times as many NSF transactions per account in 2022 for low average balance accounts (a mean of 2.26 NSF transactions per account) as there were for high average balance accounts (a mean of 0.11 NSF transactions per account) across the 7 FIs that provided information by average account balance.¹⁶

Access to overdraft coverage may also be an important determinant of the incidence of NSF transactions and fees. As mentioned above, consumer checking accounts can differ in terms of whether they provide access to overdraft coverage. As a starting point, some FIs offer overdraft coverage for all the products they offer, while other FIs offer some products with no overdraft coverage. Further, where a checking product does provide overdraft coverage, it may do so for all transaction types or only for some transaction types. When a checking product offers overdraft coverage on automated teller machine (ATM) and one-time debit card transactions, the financial institution must, under Regulation E, obtain the consumer's affirmative consent, or opt-in, in order to charge overdraft fees on such transactions. Though there is observable variation in Regulation E opt-in status across accounts, whether consumer checking accounts have any type of overdraft coverage largely, though not entirely, varies at the consumer-checking-product-level.

Across all 8 FIs, 64.6 percent of NSF transactions occurred on accounts with some overdraft

¹⁶ Low average balance accounts are those with an average balance at or less than \$500 during 2022 while high average balance accounts are those with an average balance at or more than \$1,500 during 2022.

coverage; these transactions did not all incur NSF fees.¹⁷ However, for the subset of consumer checking products that have accounts with and accounts without overdraft coverage, NSF transactions are somewhat more likely to occur for accounts without overdraft coverage.

NSF fees

Some FIs assess a fee when they return unpaid an NSF transaction. Consistent with a recent CFPB Data Spotlight,¹⁸ the data show that six of the eight FIs in the data had stopped charging fees on NSF transactions before the end of 2022. As a result, while we observe variation in the share of NSF transactions that were assessed a fee across both FIs and consumer checking products, most of this variation is driven by the FI-level decisions about whether to charge NSF fees. Across all NSF transactions from the 8 FIs, 13.4% of NSF transactions were assessed an NSF fee. For the 2 FIs that charged NSF fees throughout 2022, close to 100 percent of NSF transactions were assessed an NSF fee.

As was the case with NSF transactions generally, the majority of NSF transactions that were assessed a fee occurred for accounts with overdraft coverage. Across all 8 FIs, 84.3 percent of NSF transactions that were charged a fee were charged to accounts with overdraft coverage.

NSF fee revenue

As mentioned above, only 2 of the 8 FIs continuously charged NSF fees throughout 2022. Still, aggregating annual NSF fee revenue at each FI separately, NSF fee revenue per account in 2022 ranged from \$0 to \$24.29. Across all FIs and checking products in the data, the average NSF fee revenue per account was \$2.91 for the year, implying an average monthly NSF fee revenue per account of \$0.24. For the 2 FIs that charged NSF fees continuously throughout 2022, average NSF fee revenue per account was \$10.11 for the year, implying an average monthly NSF fee revenue per account of \$0.84.

¹⁷ Across all 8 FIs, 92 percent of accounts have some type of overdraft coverage. This suggests that NSF transactions occur somewhat more frequently on accounts without any overdraft coverage on a per account basis, but it does not inform our understanding of the share of NSF fees that were charged on accounts with some type of overdraft coverage.

¹⁸ See “Data Spotlight: Vast majority of NSF fees have been eliminated, saving consumers nearly \$2 billion annually,” (October 11, 2023), available at <https://www.consumerfinance.gov/data-research/research-reports/vast-majority-of-nsf-fees-have-been-eliminated-saving-consumers-nearly-2-billion-annually/>.

TABLE 6: NSF INCIDENCE FOR SELECT CATEGORIES

	All eight financial institutions			Highest financial institution-level value	Lowest financial institution-level value
	All accts	Low average balance	High average balance	All accts	All accts
	(1)	(2)	(3)	(4)	(5)
Number of accounts (MN)	>15.0M	>1.0M	>1.0M		
Average number of nsf transactions per account	0.64	2.26	0.11	1.27	0.14
Percent nsf transactions with a fee (%)	13.4%	3.6%	6.6%	0.0%	100%
Percent nsf transactions on accounts with overdraft coverage (%)	64.6%	57.2%	88.7%	17.2%	100%
Percent nsf fees on accounts with overdraft coverage (%)	84.3%	73.0%	80.6%	36.1%	100%
Nsf fee revenue per account (\$)	\$2.9	-	-	\$0.0	\$24.3

NSF fee amounts and NSF transactions

We also considered the relationship between reductions in NSF fee amounts and the incidence of NSF transactions. As noted previously, 5 of the 8 FIs included in the data reduced the NSF fee amount they charged customers to \$0 during 2022. To explore the relationship between NSF fees and NSF transactions, we use the consumer checking product by month-level data from 7 of the FIs to run ordinary least squares regressions of the number of NSF transactions per month (in 1,000's) on the NSF fee the FI charged in that month, after conditioning on month fixed effects and FI fixed effects.¹⁹ These regressions compare how the number of NSF transactions in a month changed after an FI reduced the NSF fee amount they charged consumers, after accounting for differences in the average number of NSF transactions the 7 included FIs reported in that calendar month (e.g., January, February) and differences in the average number of NSF transactions that FI observed across all 12 months of data. The results provide us with an estimate of the association between a \$1 NSF fee increase and the number of NSF transactions after accounting for differences in these variables across months and across FIs; given the linear functional form, this is equal to -1 times the association between a \$1 NSF fee decrease and the

¹⁹ We exclude the data from one FI due to potential reporting issues around the time of an NSF fee change.

number of NSF transactions.

We find that a \$1 NSF fee increase is not statistically significantly associated with the number of NSF transactions in that month. The point estimate suggests there are approximately 1,900 additional NSF transactions when the NSF increases by \$1, but this association is not statistically distinguishable from zero. Including checking account product fixed effects instead of FI fixed effects does not change the point estimate but reduces the standard errors. Replacing the linear control for the NSF fee amount with an indicator variable that takes on the value of 1 if the NSF fee amount was \$0, and zero otherwise, also points towards a *negative* relationship between an NSF fee amount of \$0 and the number of NSF transactions in a month. Thus, in all the specifications we explored we estimate associations that suggest the lower the NSF fee was in a calendar month, the fewer NSF transactions that occurred in that month.

The analysis of available data therefore does not suggest that recent reductions in NSF fee amounts have been associated with increases in the volume of NSF transactions. However, with data on eight FIs, five NSF fee changes, and 12 calendar months, it is not possible to carefully control for all potentially confounding variation. The lack of any increase in NSF transaction volumes following changes in NSF fee amounts could therefore potentially be explained by other coincident, non-observed changes that affected NSF fee amounts or NSF transaction volumes. Relatedly, the 12-month period covered by the data prevents us from exploring whether there are any medium- or longer-term associations with consumer behavior. This might be relevant if, for example, consumers are more likely to learn about fee amount changes through their own experiences rather than from information disseminated by FIs.

APPENDIX A: AVERAGE CHARGE-OFF AMOUNTS FOR SELECT CATEGORIES²⁰

	FI-1			FI-3			FI-4			FI-7			FI-8		
	All accts	Low avg bal	High avg bal	All accts	Low avg bal	High avg bal	All accts	Low avg bal	High avg bal	All accts	Low avg bal	High avg bal	All accts	Low avg bal	High avg bal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Number of accounts (MN) ²¹	<1M	<1M	<1M	<1M	<1M	<1M	>15M	5M-10M	10M-15M	>2M-5M	<1M	>2M-5M	5M-10M	>1M-2.5M	>2M-5M
Average number of fees per account ²²	1.3	4.1	0.3	1.0	—	—	1.6	5.1	0.3	2.1	7.1	0.3	1.4	5.2	0.3
Percent eligible opted-in to Reg E	26.4%	20.5%	27.5%	25.1%	19.9%	26.1%	24.3%	25.1%	22.5%	24.5%	24.4%	23.4%	22.3%	21.9%	22.3%
Average overdraft charge-off per od transaction regardless of fee (\$) ²³	—	—	—	\$2.55	—	—	\$1.84	\$2.45	\$0.70	\$5.54	—	—	\$0.30	\$0.55	\$0.12
Average overdraft charge-off per overdraft transaction when a fee was charged (\$) ²⁴	\$3.55	\$5.71	\$0.84	\$3.13	—	—	\$5.09	\$6.67	\$1.86	\$12.54	\$15.88	\$4.31	\$0.86	\$1.28	\$0.53

²⁰ The results reported on in Appendix A are calculated for the five FIs that provided usable data on charge-offs and uses the March-December 2022 period. This is because certain FIs reported losses for January and February only on accounts that were active during the review period (calendar 2022). Most charge-off losses incurred in those two months were on accounts that were inactive in those months and thus those FIs did not include them.

²¹ Appendix A does not include precise data on number of accounts to avoid re-identification risk.

²² This series is incomplete because of partial data submissions.

²³ This series is incomplete because of partial data submissions.

²⁴ This series is incomplete because of partial data submissions.

APPENDIX B: AVERAGE MONTHLY CHARGE-OFF AMOUNTS – ALL ACCOUNTS²⁵

	March	April	May	June	July	August	September	October	November	December
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of accounts (MN) ²⁶	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M
Average number of fees per account	0.16	0.14	0.15	0.15	0.13	0.15	0.14	0.12	0.13	0.13
Percent eligible opted-in to Reg E	24.0%	23.9%	23.9%	23.8%	23.7%	23.7%	23.6%	23.5%	23.5%	23.5%
Average overdraft charge-off per overdraft transaction regardless of fee (\$)	\$2.10	\$1.72	\$1.90	\$2.01	\$2.14	\$2.11	\$1.92	\$2.09	\$2.15	\$1.80
Average overdraft charge-off per overdraft transaction when a fee was charged (\$)	\$4.42	\$3.81	\$4.43	\$5.16	\$5.92	\$6.05	\$5.66	\$6.65	\$6.34	\$5.46

²⁵ The results reported on in Appendix B are calculated for the five FIs that provided usable data on charge-offs. The results use the March-December 2022 period because certain FIs reported losses for January and February only on accounts that were active during the review period (calendar 2022). Most charge-off losses incurred in those two months were on accounts that were inactive in those months and thus those FIs did not include them.

²⁶ Appendix B does not include precise data on number of accounts to avoid re-identification risk.

APPENDIX C: AVERAGE MONTHLY CHARGE-OFF AMOUNTS – LOW AVERAGE BALANCE ACCOUNTS²⁷ (AT OR LESS THAN \$500 ON AVERAGE)

	March	April	May	June	July	August	September	October	November	December
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of accounts (MN) ²⁸	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M	5M-10M
Average number of fees per account	0.48	0.44	0.47	0.45	0.41	0.45	0.41	0.37	0.40	0.38
Percent eligible opted-in to Reg E	24.8%	24.7%	24.6%	24.5%	24.3%	24.2%	24.1%	23.9%	23.8%	23.7%
Average overdraft charge-off per overdraft transaction regardless of fee (\$)	\$2.49	\$1.90	\$1.93	\$2.16	\$2.26	\$2.40	\$2.11	\$2.09	\$2.14	\$1.89
Average overdraft charge-off per overdraft transaction when a fee was charged (\$)	\$4.43	\$3.58	\$3.77	\$4.51	\$5.03	\$5.45	\$4.98	\$5.51	\$5.20	\$4.77

²⁷ The results reported on in Appendix C are calculated for the five FIs that provided usable data on charge-offs. The results use the March-December 2022 period because certain FIs reported losses for January and February only on accounts that were active during the review period (calendar 2022). Most charge-off losses incurred in those two months were on accounts that were inactive in those months and thus those FIs did not include them.

²⁸ Appendix C does not include precise data on number of accounts to avoid re-identification risk.

APPENDIX D: AVERAGE MONTHLY CHARGE-OFF AMOUNTS – HIGH AVERAGE BALANCE ACCOUNTS²⁹ (AT OR MORE THAN \$1,500 ON AVERAGE)

	March	April	May	June	July	August	September	October	November	December
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Number of accounts (MN) ³⁰	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M	>15M
Average number of fees per account	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Percent eligible opted-in to Reg E	22.6%	22.6%	22.5%	22.5%	22.4%	22.4%	22.3%	22.3%	22.3%	22.3%
Average overdraft charge-off per overdraft transaction regardless of fee (\$)	\$0.03	\$0.10	\$0.18	\$0.32	\$0.46	\$0.65	\$0.55	\$0.70	\$0.79	\$0.68
Average overdraft charge-off per overdraft transaction when a fee was charged (\$)	\$0.06	\$0.20	\$0.38	\$0.80	\$1.27	\$1.99	\$1.73	\$2.52	\$2.68	\$2.28

²⁹ The results reported on in Appendix D are calculated for the five FIs that provided usable data on charge-offs. The results use the March-December 2022 period because certain FIs reported losses for January and February only on accounts that were active during the review period (calendar 2022). Most charge-off losses incurred in those two months were on accounts that were inactive in those months and thus those FIs did not include them.

³⁰ Appendix D does not include precise data on number of accounts to avoid re-identification risk.

APPENDIX E: PERCENT OF ACCOUNTS WITH AT LEAST ONE, SIX, AND TWELVE OVERDRAFT FEES ASSESSED – ALL ACCOUNTS.

	At least one overdraft fee	At least six overdraft fees	At least twelve overdraft fees
FI-1	22.9%	6.6%	3.4%
FI-2	5.2%	0.6%	0.1%
FI-3	20.0%	4.2%	1.8%
FI-4	18.8%	6.7%	3.9%
FI-5	19.6%	5.7%	3.2%
FI-6	21.8%	6.2%	2.9%
FI-7	28.0%	9.0%	5.1%
FI-8	14.6%	4.7%	2.6%
All FIs	16.9%	5.6%	3.1%

APPENDIX F: PERCENT OF ACCOUNTS WITH AT LEAST ONE, SIX, AND TWELVE OVERDRAFT FEES ASSESSED – LOW AVERAGE BALANCE ACCOUNTS. AT OR LESS THAN \$500 ON AVERAGE

	At least one overdraft fee	At least six overdraft fees	At least twelve overdraft fees
FI-1	61.7%	21.3%	11.7%
FI-2	5.9%	0.9%	0.1%
FI-3	44.0%	11.5%	5.4%
FI-4	45.6%	20.0%	12.5%
FI-5	34.7%	12.4%	7.3%
FI-6	30.6%	9.7%	4.7%
FI-7	61.8%	23.8%	14.1%
FI-8	29.7%	12.4%	7.6%
All FIs	37.9%	15.7%	9.6%

APPENDIX G: PERCENT OF ACCOUNTS WITH AT LEAST ONE, SIX, AND TWELVE OVERDRAFT FEES ASSESSED – HIGH AVERAGE BALANCE ACCOUNTS. AT OR MORE THAN \$1,500 ON AVERAGE

	At least one overdraft fee	At least six overdraft fees	At least twelve overdraft fees
FI-1	7.9%	1.4%	0.5%
FI-2	3.8%	0.3%	0.0%
FI-3	7.7%	1.0%	0.3%
FI-4	6.1%	1.3%	0.6%
FI-5	8.5%	1.5%	0.7%
FI-6	12.3%	2.7%	1.2%
FI-7	11.3%	2.4%	1.2%
FI-8	5.4%	1.0%	0.5%
All FIs	5.4%	1.0%	0.5%