

Assessing Bank Earnings Quality Through Net Income and Operating Cash Flow Matching: A Case Study of Bank of America

Dongyang Liu

Stamford American International School, Singapore, Singapore
Liudongyang497@gmail.com

Abstract. Although net income is the standard profitability measure, it offers limited insight into earnings quality in the absence of the underlying cash flow support for reported earnings. This limitation is particularly acute for large banks, which require ongoing liquidity to support lending, trading and other commitments. This study conducts a case study diagnostic analysis that first measures the Cash Flow from Operations/Net Income (CFO/Ni) ratio, then decomposes the gap using the indirect method and examines the reason behind, subsequently evaluates credit risk indicators relative to those of peer banks. The study finds that Bank of America's 2025 CFO/Ni ratio was roughly 0.41, with shortfall predominantly explained by negative operating cash flow adjustments associated with trading and derivatives assets/liabilities and other assets. The provision for credit losses was positive noncash adjustment rather than a significant driver of the CFO reduction and remained largely aligned with realized credit losses. These findings indicate that the observed mismatch is more consistent with bank-specific balance-sheet and capital-markets activity than with a broad deterioration in underlying earnings quality or clear evidence of earnings management. These findings illustrate the analytical value of combining the CFO/Ni ratio with indirect cash flow reconciliation and credit-risk validation in a case-based assessment of large-bank earnings quality.

Keywords: Earnings quality, operating cash flow, CFO/Ni ratio, credit loss provisions, Bank of America

1. Introduction

Net income is commonly regarded as an indicator of profitability; however, it alone cannot suffice in measuring earnings quality. Accrual accounting recognizes revenues and expenses when they are earned or incurred, instead of when cash is received or paid. Although accrual accounting improves intertemporal revenue–expense matching, reported earnings remain sensitive to recognition timing and estimation uncertainty in accrual estimates. As a result, net income should not be treated as interchangeable with earnings quality, particularly when reported profits are not clearly supported by operating cash flow.

Operating cash flow, or net cash provided by operating activities, provides important evidence of whether reported earnings are supported by cash generated from business activities. For banks, however, the relationship between net income and operating cash flow is more complex than for non-financial firms. Bank operating cash flow may be affected by changes in trading assets and liabilities, derivative positions, lending-related balances, credit loss provisions, and other financial assets and liabilities. Accordingly, any observed deviation between net income and operating cash flow should not be interpreted mechanically. Instead, it should be decomposed using the indirect cash flow method to distinguish normal banking-related balance-sheet movements from potential earnings quality concerns.

Despite this need, Prior studies provide broad evidence on earnings quality and bank cash flows, but less direct attention has been paid to applying an integrated CFO/NI diagnostic framework to a single large U.S. bank. This study fills that gap by decomposing Bank of America's CFO/NI mismatch and validating the results using credit-risk indicators and peer comparison.

Bank of America is selected as the case company since it is one of the largest U.S. banking institutions and involved across several major business segments, such as Consumer Banking, Global Wealth & Investment Management, Global Banking, and Global Markets [1]. The diversified nature of its business makes Bank of America a good candidate for investigating bank earnings quality since its reported earnings may be influenced by stable lending and fee-based activities as well as market related activities that are more complex. Accordingly, this article seeks to answer three questions: first, whether the net income of Bank of America is supported by operating cash flow; secondly, if not supported, to discover the major reasons for such; and third, whether such lack of support can be explained by banking business or whether it implies earnings quality problems. To answer these questions, the paper uses the CFO/NI ratio as an initial indicator, applies the indirect cash flow method to identify the sources of the mismatch, and then considers credit risk indicators and peer comparison to evaluate whether the mismatch is economically explainable within Bank of America's business structure and operation.

2. Literature review

2.1. Earnings quality and cash flow matching

Recognition of the revenues or costs as they are earned or incurred, rather than when cash is received. Casey and Ruch show that accrual-basis operating profit can predict future cash flows better than cash-basis profit, supporting the informativeness of accrual accounting when cash flows are affected by timing and matching problems [2]. However, accruals also rely on assumptions and estimates about future cash flows, making reported earnings sensitive to non-cash items, fair value adjustments, and management judgment. Dechow and Dichev argue that accruals reduce timing mismatch in cash flows, but estimation errors introduce noise into earnings and reduce accrual and earnings quality [3]. Therefore, net income may be less informative when it depends heavily on accrual estimates that are not subsequently realized in operating cash flows. Dichev et al. further find that quality earnings are associated with sustainability, repeatability, actual cash-flow backing, and fewer one-time items or long-term estimates [4]. Consequently, this study emphasizes earnings quality as the extent to which reported earnings are supported by operating cash flows and the underlying drivers. The matching between net income and operating cash flow is therefore used as an initial diagnostic tool.

2.2. Net income, cash flow, and the CFO/Ni ratio

Sloan shows that current earnings contain both cash-flow and accrual components, and that earnings persistence depends on the relative magnitude of these components [5]. This suggests that earnings with stronger operating cash flow support may provide more reliable evidence of sustainable earnings power, whereas accrual-heavy earnings require closer examination. Following Chen et al., who identify cash flows as a benchmark for earnings quality, this study uses the ratio of operating cash flow to net income (CFO/Ni) to operationalize the cash-flow support dimension of earnings quality [6]. If the ratio is above one, when net income is positive, it generally indicates a strong cash flow cover for the reported profit. Conversely, if the ratio is persistently low, it might indicate that more earnings are dependent on non-cash components or accrual sources. However, the CFO/Ni ratio should only be taken as an initial diagnosis. In the case of banks, operating cash flow can be affected by timing differences on the balance sheet or classification problems on the cash flow statement, a low ratio does not always point to a true weakening in underlying profitability.

2.3. Bank cash flow complexity and the indirect method

The central issue for banks is not whether operating cash flow matches net income, but why and how they differ. Since banks are in the business of managing financial assets and liabilities, operating cash flow is particularly sensitive to balance-sheet changes such as trading assets, derivatives, loans held for sale, margin- or collateral-related balances, and other financial assets and liabilities. Consequently, low or fluctuating CFO/Ni ratio might result from banking specific cash flow movements rather than from a direct deterioration in earnings quality.

Prior research provides support for this caution. Ryan, Tucker, and Zarowin show that trading positions create classification challenges because their cash flows may contain both operating and non-operating elements, while Saito and Yasuda further argue that cash flow statement classification can function as a signaling channel [7, 8]. In addition, Casu et al.'s recent derivatives-market research shows that OTC derivatives, collateralization, and margin-related mechanisms can create liquidity and balance-sheet complexity for large financial institutions [9]. Chen et al. also emphasize that cash-flow measures should be selected and interpreted according to the research construct, rather than treated as mechanically comparable across settings [6]. Consequently, indirect cash flow is employed because it begins with net profit and discloses which non-cash items and balance sheet adjustments cause the operating cash flow to deviate from the net profit. By individualizing these adjustments such as trade and derivative assets and liabilities, loans held for sale, accrued expenses, other assets, other liabilities, this research can evaluate whether these are due to the typical balance sheet activity or signals of lower earnings quality.

2.4. Credit loss provisions, CECL, and earnings quality

Beyond trading and cash-flow classification issues, credit loss provisions create another bank-specific channel through which net income may differ from cash-flow-based evidence of performance. Provision for credit losses reduces net income because it recognizes expected credit losses before the related losses are fully realized. Under CECL, banks estimate expected credit losses using past events, current conditions, and reasonable and supportable forecasts, making provisions more forward-looking but also more dependent on management assumptions [10]. Lu and Nikolaev show that expected loan loss provisioning involves long-term loss prediction and macroeconomic forecasting, reinforcing its estimate-based nature [11]. Therefore, credit loss

provisions reflect timely credit-risk recognition, but may also raise earnings quality concerns when they are inconsistent with realized credit losses or influenced by managerial discretion. This concern is consistent with Gallemore's bank reporting research, which shows that delayed expected loan loss recognition is associated with financial reporting opacity, and by Allini et al.'s recent evidence that banks may use loan loss provisions for earnings management during downturns [12, 13]. The study therefore compares provisions and net charge-offs, nonperforming loans and allowance coverage along with peers to assess whether provisioning seems well consistent with actual credit risk.

3. Methodology

This paper develops a case-based diagnostic framework to analyze Bank of America's financials of 2025. Three successive stages include the CFO/NI screening, indirect cash-flow decomposition, and validation with credit-risk indicators and peer comparison. The data are gathered from the Annual Reports & Form 10-K filings of Bank of America. Key numbers used in the analysis include net income, net cash provided by operating activities, major operating cash adjustments, provision for credit losses, net charge-offs, allowance coverage, nonperforming loans, and loan growth. The comparables are JPMorgan Chase and Wells Fargo.

The study decomposes the CFO/NI ratio into three stages. In the first stage, the analysis uses the CFO/NI ratio as a measure of initial cash-flow support behind reported earnings. In the second stage, the analysis decomposes the difference between net income and CFO using the indirect cash-flow method, paying special attention to major adjustments like trading and derivative items, other assets and liabilities, and credit loss provisions. Third, the study uses credit-risk and provisioning indicators to assess whether the mismatch is accompanied by credit deterioration or earnings quality concerns related to provision and whether Bank of America's pattern is unusual among large U.S. banks. In order to evaluate the consistency of the primary findings across interim periods and alternative adjustments, quarterly robustness checks and sensitivity analysis are implemented.

4. Result

4.1. Profitability background and CFO/NI screening

Table 1 reveals that Bank of America's reported profitability and CFO were not aligned during 2021-2025. Revenue, net interest income, noninterest income, and net income remained broadly resilient, whereas CFO was more inconsistent. The CFO/NI was negative in a few years, spiked above 1 in 2023, and remained below 1 in 2025. This five-year pattern reveals that the earnings-CFO mismatch is not just a one-time event. Bank of American had two other cases of significant CFO/NI activity during 2021-2025. The substantial upswing in CFO during 2023 despite lower NI suggests that raw CFO can indeed increase sharply due to the banking cash flow activities even when profitability deteriorates somewhat. Consequently, the analysis focused on year 2025 as it is the most recent one where reported profit significantly increased while operating cash flows remained weak relative to net income. In 2025, Bank of America reported net income of \$30.509 billion but generated only \$12.613 billion of operating cash flow, resulting in a CFO/NI ratio of 0.41. The notable deviation between accounting earnings and cash-flow support raises an initial concern about earnings quality.

Table 1. Bank of America corporation profitability and CFO/Ni overview

Year	Total revenue, net of interest expense	Net interest income	Noninterest income	Provision for credit losses	Net income	CFO	CFO/Ni
2021	89,113	42,934	46,179	(4,594)	31,978	(7,193)	(0.22)
2022	94,950	52,462	42,488	2,543	27,528	(6,327)	(0.23)
2023	102,769	56,931	45,838	4,394	26,305	44,982	1.71
2024	105,856	56,060	49,796	5,821	26,973	(8,805)	(0.33)
2025	113,097	60,096	53,001	5,675	30,509	12,613	0.41

(2021–2025 Bank of America Corporation Annual Reports / Form 10-K filings, 2021–2025) Note: 2024 and 2023 figures are recast from Bank of America's 2025 Annual Report due to a retrospective accounting method change for certain tax-related equity investments.

4.2. Indirect method decomposition: identifying the sources of the deviation

Table 2 decomposes the difference between Bank of America's net income and operating cash flow in 2025 using the indirect method. Beginning with net income of \$30.509 billion, several non-cash and liability-side items increased CFO, including provision for credit losses of \$5.675 billion, depreciation and amortization of \$2.314 billion, stock-based compensation of \$4.001 billion, loans held-for-sales of \$4.215 billion, and accrued expenses and other liabilities of \$17.315 billion. However, these positive adjustments were more than offset by two large negative items: trading and derivative assets/liabilities of negative \$35.027 billion and other assets of negative \$19.584 billion. Combined, these two items decreased CFO by \$54.611 billion, explaining why operating cash flow remained significantly below net income despite positive reported profitability. As a sensitivity check, adjusted CFO increases to \$47.6 billion and adjusted CFO/Ni rises to 1.56 after excluding the negative trading and derivative adjustment. When the negative other-assets adjustment is also excluded, adjusted CFO increases to \$67.2 billion and adjusted CFO/Ni rises to 2.20. This is not an official restatement of CFO, but it shows that the weak raw CFO/Ni ratio is highly sensitive to bank-specific cash flow movements.

Table 2. Bank of America corporation 2025 indirect cash flow reconciliation from net income to net cash provided by operating activities

Item	Effect on CFO	Analytical role
Net income	30,509	Starting point
Positive adjustments		
Provision for credit losses	5,675	Non-cash add-back
Depreciation and amortization	2,314	Non-cash expense
Stock-based compensation	4,001	Non-cash compensation
Loans held-for-sale	4,215	Operating asset adjustment
Accrued expenses and other liabilities	17,315	Liability-side positive adjustment
Negative adjustments		
Trading and derivative assets/liabilities	(35,027)	Largest negative adjustment
Other assets	(19,584)	Second major negative adjustment
Other adjustments		

Table 2. (continued)

Other operating activities	3,739	Other positive adjustment
Remaining adjustments	(544)	Reconciliation item
Net cash provided by operating activities	12,613	Ending CFO

Bank of America Corporation 2025 Annual Reports / Form 10-K filings) Note. CFO: net cash provided by operating activities.

4.3. Mechanism explanation: normal banking operations or weak earnings quality

The 2025 CFO/NI mismatch was mainly driven by two balance-sheet mechanisms. First, the negative adjustment from trading and derivative assets/liabilities mainly reflects the expansion of trading-related positions. Bank of America's trading account assets rose from \$314.460 billion in 2024 to \$366.954 billion in 2025, while trading account liabilities increased lesser, from \$92.543 billion to \$105.996 billion. This indicates that part of the CFO weakness stemmed from cash being tied up in trading-related assets, with only partial offset from related liabilities. The composition of trading account assets is consistent with this interpretation. The increase was primarily due to U.S. Treasury and government agency securities, corporate securities and trading loans, equity securities, and non-U.S. sovereign debt. These assets were marketable trading positions rather than a single distressed asset category. This suggests that the negative adjustment was more likely related to trading inventory, market-making, client activity, and collateralized trading activity than to a direct deterioration in earnings quality.

Second, the reduction in other assets also can be related to expansion of operating assets. Customer and other receivables increased by approximately \$15.9 billion, while other assets increased by about \$3.2 billion. These changes explained the bulk of the negative adjustment to other-assets in the CFO calculation. This suggests that cash was absorbed into receivables, settlement-related items, and other operating assets. Although Other Assets on the cash flow statement does not perfectly align with the line item on the balance sheet, the balance sheet evidence supports this conclusion regarding CFO's decline. The quarterly robustness check further supports the annual result. The 2025 CFO/NI mismatch was not a consistent year-round loss in earnings-to-cash conversion, shown by the fact that CFO was negative in Q1, Q2, and Q4 but had a substantial positive turnaround in Q3. The sharp positive-negative changes across quarters, driven mainly by trading and derivative adjustments, further reinforced that bank CFO is temporarily distorted by trading and derivative movements.

Income statement data is a useful cross-check, but it is not independent verification. In 2025, revenues, net interest income, non-interest revenue and net income all increased from 2024. Trading and sales revenue grew while market-making and like activities declined only modestly. It does not exclude earnings-quality concerns, but it weakens the inference of broad core earnings deterioration behind the CFO weakness. The evidence is consistent with the idea that the CFO/NI mismatch was driven largely by capital markets and balance-sheet effects, including asset growth related to trading activity and increases in receivables or other operating assets, not by marked earnings quality deterioration.

4.4. Credit risk and provisioning check

While provision for credit losses is added back to the CFO reconciliation as a non-cash expenditure, it remains relevant to earnings quality because it decreases net income and is based on estimates of expected credit losses. Bank of America's provision for loan and lease losses in 2025 was \$5.595

billion, slightly lower than the \$5.935 billion in 2024. Bank's net charge-offs declined from \$6.031 billion to \$5.631 billion, and the net charge-off rate improved from 0.57% to 0.50%. Provisioning was broadly in line with realized charge-offs, with provision/net charge-offs increasing from 2024's 0.98 to 2025's 0.99. This suggests that provisioning was generally consistent with actual credit losses but not moving sharply in the opposite direction against realized credit risk.

Other credit quality indicators did not cause serious deterioration either. The nonperforming loan ratio was 0.55% and declined to 0.49%, while the allowance coverage of nonperforming loans improved from 222% to 228%. Although the allowance-to-loans ratio (allowance for loan and lease losses as a percentage of total loans and leases) declined from 1.21% to 1.12%, this decline should be interpreted with loan growth and lower realized losses. Average total loans and leases increased from \$1.060 trillion to \$1.137 trillion, and net charge-offs and nonperforming loan ratios improved. Overall, the evidence offers limited support for the fact that Bank of America's CFO/NI mismatch in 2025 was broadly associated with credit deterioration or provision-related earnings management.

4.5. Peer comparison

The peer comparison indicates that Bank of America was not an isolated case, as similar CFO/NI mismatches also appeared among the selected large U.S. peer banks (Table 3). Similarly, JPMorgan Chase posted strong profits yet recorded substantial negative operating cash flow, and its report mentioned use of operating cash flow for higher trading assets, securities borrowed, loans held-for-sale, other assets, and receivables. Wells Fargo reported negative CFO as well, with trading assets and liabilities being largest negative operating cash flow adjustment. This supports the interpretation that large banks' operating cash flow can be heavily affected by capital-markets and balance-sheet movements [14, 15].

Bank of America's credit-risk profile did not appear weaker comparing to its peers. Net charge-off ratio of the company declined from 0.57% to 0.50%, and the nonperforming loan ratio decreased to 0.49%. Conversely, the cost of credit for JPMorgan was higher due to higher net charge-offs, and higher reserve additions, while Wells Fargo showed lower provisions as well as net charge-offs [14, 15].

Table 3. Peer comparison of CFO/NI and major operating cash flow pressures, 2025

Bank	Net income	CFO	CFO/NI	Main CFO pressure
Bank of America	30.5	12.6	0.41	Trading/derivative assets-liabilities and other assets
JPMorgan Chase	57.0	-147.8	-2.59	Higher trading assets, securities borrowed, loans held-for-sale, other assets, and receivables
Wells Fargo	21.4	-19.0	-0.89	Trading assets and liabilities were the largest negative adjustment

Note: Bank of America Corporation 2025 Annual Report / Form 10-K; JPMorgan Chase & Co. 2025 Annual Report / Form 10-K; Wells Fargo & Company 2025 Annual Report / Form 10-K.

5. Conclusion

Employing Bank of America as an illustration, the study demonstrates how the net income–operating cash flow matching can be used as a diagnostic indicator of bank earnings quality. In 2025, Bank of America recorded a net income of \$30.509 billion and an operating cash flow of \$12.613 billion, to result in a CFO/NI ratio of 0.41. The indirect reconciliation reveals that most of

the difference was due to \$35.027 billion negative adjustment for trading and derivatives assets/liabilities, and \$19.584 billion from other assets. These changes aligned with substantial increases in trading positions and customer receivables, reporting that cash was absorbed by asset-side balance-sheet movements.

In conclusion, the evidence indicates that the low CFO/NI ratio was more likely the result of bank-specific trading, settlement, and other asset movements than deterioration in the overall earnings quality. This conclusion is supported by comparisons with their peers: JPMorgan Chase and Wells Fargo also reported negative CFO/NI ratios of -2.59 and -0.89 , respectively, largely due to trading-related and other asset-side movements. The analysis of credit risk also offers no strong grounds for concern about provisioning-related earnings quality. Bank of America had a \$5.595 billion provision for loan and lease losses, which was broadly in line with \$5.631 billion in net charge-offs, and the net charge-off ratio declined from 0.57% to 0.50%, while the nonperforming loan ratio dropped from 0.55% to 0.49%. Consequently, the study does not interpret Bank of America's CFO/NI mismatch as evidence of underlying weak earnings; it appears to largely reflect routine large-bank trading, settlement, and balance sheet-related activity. The study's principal contribution is interpretive: it demonstrates how CFO/NI screening can be combined with indirect-method decomposition, credit-risk validation, and peer comparison to distinguish limited raw cash-flow support from underlying earnings-quality problems.

This study, however, is limited by its single-firm focus, limited sample size, use of annual publicly reported data and judgmentally classified bank-specific cash flow adjustments. The framework also combines established accounting indicators but does not constitute a fully validated earnings-quality structure. Further research could standardized adjustments within larger bank samples and examine if the model improves earnings sustainability assessments across banks with diverse business models and regulatory environment.

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