

## Northern Trust Corporation

# Hard to replicate wealth franchise; Reinstate with Buy rating, \$90 PO

Reinstating Coverage: BUY | PO: 90.00 USD | Price: 67.17 USD

## Well positioned to navigate the cycle

We reinstate coverage on Northern Trust (NTRS) with a Buy rating and \$90 PO (~34% upside). We believe that the stock offers a compelling entry point to gain exposure to a hard to replicate wealth management franchise that caters to high-net and ultra-high-net worth clientele. While we acknowledge the downside risks to EPS/ROE due to deposit costs and equity/bond market volatility, we see these as reflected in the valuation and consider NTRS well positioned to navigate the cycle.

## #1 Attractive cyclical positioning: credit, rates

Relative to Main Street banks, NTRS is well situated for a worsening credit quality backdrop given its high-quality lending book, which is primarily exposed to a well-heeled client base. Net charge-offs averaged 3bp over the last decade vs. 35bp industry peer median. Also, well suited to handle higher for longer rates with asset duration < 1yr.

## #2 Self-help ongoing: expenses, capital return

Management is intensely focused on productivity improvement with a goal to lower the expense to trust fee ratio to 105-110% vs. 118% LTM and pre-tax margin to +30% vs. 24%. We forecast expense growth of +1% YoY for FY24/25. Capital return potential is also significant, with excess CET1 capital 400bp above the regulatory minimum or 25% of market-cap. We forecast a total payout ratio of ~90% for FY24/25.

## #3 Fee revenue: Backdrop looks favorable for growth

NTRS derives 70% of revenues via fee income, underpinned by asset prices (equities ~50% AUC/AUM). BofA Equity strategy team's 12-month forecast calls for the S&P 500 +6% vs. current levels; 10yr UST yield 4.0% vs. 4.8% currently. We believe this should be a conducive backdrop for the company to grow fee revenues (fees have seen a 5% CAGR since 2013) although a sharp pullback in asset prices poses downside risks.

## Valuation is not reflecting franchise quality

The stock trades at 11x 2024 P/E vs. 16x 5yr pre-pandemic median and 1.3x P/YE24e TBV vs. our forecast for a return on tangible common equity of ~12% for FY24/25. Stock also trading at a discount relative to its two trust bank peers – BK & STT – relative to history. Our EPS forecast implies -1%/+9% YoY for FY24/25. A sharp decline in asset prices or higher funding costs are two key risks to our EPS forecast. Our \$90 PO is based on applying a P/TBV multiple of 1.7x (50% weight) to our YE24e TBV and a 14.5x P/E (50% weight) multiple to our 2024e P/E.

Estimates (Dec) (US\$)	2021A	2022A	2023E	2024E	2025E
EPS	7.13	7.09	6.27	6.22	6.76
GAAP EPS	7.13	6.14	6.03	6.22	6.76
EPS Change (YoY)	30.7%	-0.6%	-11.7%	-0.8%	8.8%
DPS	2.80	2.90	3.00	3.10	3.10
<b>Valuation (Dec)</b>					
P/E	9.4x	9.5x	10.7x	10.8x	9.9x
GAAP P/E	9.4x	10.9x	11.1x	10.8x	9.9x
Dividend Yield	4.2%	4.3%	4.5%	4.6%	4.6%

10 October 2023

### Equity

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### Stock Data

Price	67.17 USD
Price Objective	90.00 USD
Date Established	9-Oct-2023
Investment Opinion	B-1-7
52-Week Range	65.50 USD - 100.25 USD
Mrkt Val / Shares Out (mn)	13,904 USD / 207.0
Average Daily Value	82.88 USD
BofA Ticker / Exchange	NTRS / NAS
Bloomberg / Reuters	NTRS US / NTRS.OQ
ROE (2023E)	12.3%
ESGMeter™	High

ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of BofA Global Research's equity investment rating, volatility risk rating, income rating, and price objective for that company. For full details, refer to ["BofA ESGMeter Methodology"](#).

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Timestamp: 10 October 2023 06:00AM EDT

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## Income Statement Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Interest Income	1,383	1,887	1,948	1,760	1,688
% change	-4.2%	36.5%	3.2%	-9.7%	-4.1%
Net Fee Income	5,082	5,088	5,040	5,283	5,512
Securities Gains / (Losses)	0	(214)	7	0	0
Total Operating Income	6,465	6,761	6,996	7,042	7,200
Operating Expenses	(4,536)	(4,983)	(5,268)	(5,315)	(5,390)
% change	4.3%	9.9%	5.7%	0.9%	1.4%
Provisions Expense	82	(12)	(10)	(20)	(20)
% change	-165.2%	NA	-20.8%	110.5%	0%
Operating Pre-Tax Income	2,010	1,766	1,718	1,707	1,790
Operating Net Income to Comm S/Hold.	1,491	1,481	1,297	1,251	1,314
GAAP Net Income	1,491	1,282	1,249	1,251	1,314

## Balance Sheet Data (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Total Assets	183,861	155,037	151,624	151,852	155,721
Average Interest Earning Assets	140,376	134,560	134,860	137,181	139,290
Total Gross Customer Loans	40,481	42,893	43,542	46,889	48,296
% change	19.9%	6.0%	1.5%	7.7%	3.0%
Total Customer Deposits	159,928	123,932	107,259	105,951	107,382
% change	11.2%	-22.5%	-13.5%	-1.2%	1.4%
Tangible Equity	10,426	9,683	10,161	10,305	10,448
Common Shareholders' Equity	11,132	10,375	10,860	11,003	11,147

## Key Metrics (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Net Interest Margin	0.99%	1.40%	1.44%	1.28%	1.21%
Effective Tax Rate	23.1%	24.4%	24.1%	23.5%	23.5%
Loan / Deposit Ratio	25.3%	34.6%	40.6%	44.3%	45.0%
Tangible Common Equity / Assets	5.7%	6.2%	6.7%	6.8%	6.7%
ROA	1.0%	0.9%	0.8%	0.8%	NA
ROE	14.5%	12.8%	12.3%	12.1%	12.7%
RoTE	14.5%	14.7%	13.1%	12.2%	12.7%
Dividend Payout Ratio	39.3%	40.9%	47.9%	49.9%	45.8%
Efficiency Ratio (Cost / Income Ratio)	70.2%	71.4%	75.4%	75.5%	74.9%

## Quality of Earnings (Dec)

(US\$ Millions)	2021A	2022A	2023E	2024E	2025E
Total Non-Interest Inc / Operating Inc	78.6%	72.1%	72.1%	75.0%	76.6%
NPLs plus Foreclosed Real Estate / Loans	0.3%	0.1%	0.1%	0.1%	0.1%
Loan Loss Reserves / NPLs	123.14%	350.98%	378.34%	412.31%	446.28%
Loan Loss Reserves / Total Loans	0.37%	0.38%	0.41%	0.41%	0.44%

## Company Sector

Trust Banks

## Company Description

Northern Trust, headquartered in Chicago, is a provider of wealth management, asset servicing, asset management and banking solutions to corporations, institutions, families, and individuals. The company serves clients through its two client-reporting segments: Asset Servicing (previously Corporate & Institutional Services - C&IS) and Wealth Management. The company operates globally with offices in 23 U.S. states and Washington, D.C.

## Investment Rationale

We view Northern Trust as well positioned relative to peers reflecting self-help factors, fee revenue resiliency, and favorable cyclical positioning that should drive EPS defensibility. Management has also been focused on using expense discipline as a lever in a tough revenue backdrop.

## Stock Data

Average Daily Volume 1233,904

## Quarterly Earnings Estimates

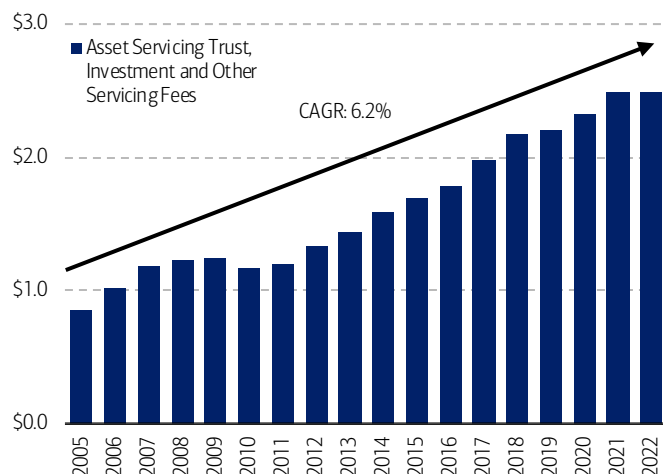
	2022	2023
Q1	1.77A	1.51A
Q2	1.86A	1.79A
Q3	1.80A	1.52E
Q4	1.66A	1.44E

## Reinstate coverage with a Buy rating

We reinstate coverage on Northern Trust-NTRS with a Buy rating and \$90 PO (~34% upside). We believe that the stock offers a compelling entry point to gain exposure to a hard to replicate wealth management franchise that caters to high-net and ultra-high-net worth individuals and businesses around the world. While a tough operating backdrop could create EPS volatility, we consider NTRS well positioned to navigate the cycle while continuing to grow its core client franchise.

### Exhibit 1: Asset Servicing 58% of revenues

Asset Servicing Trust, Investment and Other Servicing Fees, \$bn

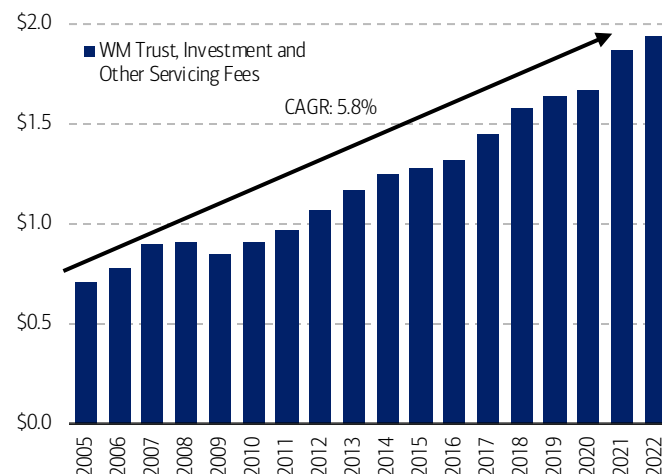


Source: BofA Global Research, Company filings

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### Exhibit 2: Wealth Management 42% of revenues

Wealth Management Trust, Investment and Other Servicing Fees, \$bn



Source: BofA Global Research, Company filings

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## #1 Attractive cyclical positioning: credit, rates

Relative to Main Street banks, Northern is well situated for a worsening credit quality backdrop given a high-quality lending book which is primarily exposed to its well-heeled client base. Net charge-offs averaged 3bp over the last decade vs. 35bp industry median. Additionally, the balance sheet is better suited to handle higher for longer interest rates with asset duration < 1 year.

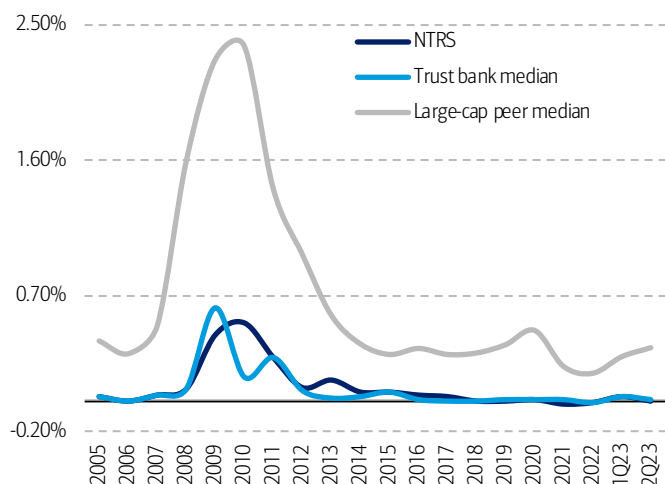
### Customer base, conservative culture driving credit performance

Northern Trust is high quality franchise that has been in business for over 130 years and is connected to the wealthiest global individuals, families, and institutions that we expect will perform well into a potential credit cycle as the bank has limited credit risk with a majority of assets in securities and cash (~60% of assets) and loans are diversified across geographies and type as well as de minimis exposure to the riskier consumers and institutions. As a result, losses have typically remained lower compared to traditional bank peers. The business of managing money for ultra-high net worth families lends itself to entrenched multi-generational business opportunities.

A relatively small loan book (28%) vs. cash (31%) and securities (32%) reduces the risk of a higher credit costs into a credit cycle.

**Exhibit 3: NTRS well positioned vs. peers into a credit cycle...**

Net charge-off ratio

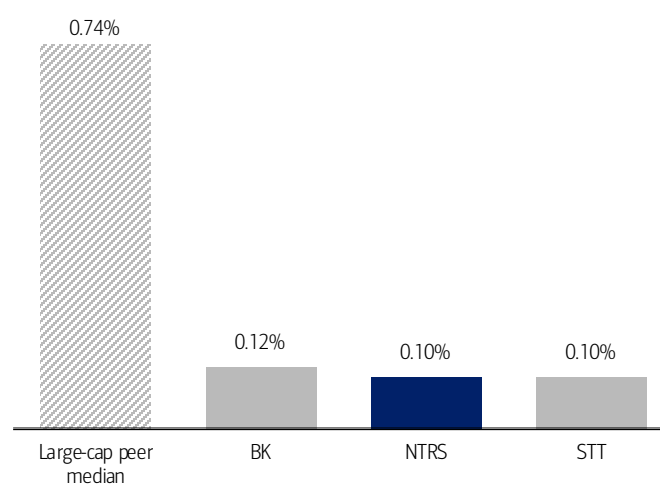


Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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**Exhibit 4: ... as evidenced by low historical loss rates**

Average net charge off ratio – 2005-2022



Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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**Exhibit 5: Northern projected total loan losses averaged 6.2%, in line with peer median**

Supervisory Severely Adverse Scenario projected total loan losses

	DFAST 2020	December 2020 Stress Test	DFAST 2021	2022 Stress Test	2023 Stress Test
JPMorgan Chase & Co.	6.6%	7.3%	5.7%	6.0%	6.4%
Citigroup Inc.	6.7%	8.2%	7.1%	6.4%	7.2%
Wells Fargo & Company	4.9%	6.5%	5.8%	6.0%	5.7%
The PNC Financial Services Group, Inc.	5.1%	6.5%	6.0%	6.3%	5.5%
Truist Financial Corporation	5.1%	6.3%	5.7%	5.7%	5.9%
U.S. Bancorp	5.8%	7.6%	6.2%	5.9%	6.3%
Fifth Third Bancorp	6.8%	8.4%	-	7.2%	-
Huntington Bancshares Incorporated	5.1%	6.8%	-	6.3%	-
KeyCorp	5.3%	5.9%	-	6.4%	-
M&T Bank Corporation	5.5%	10.1%	-	8.3%	7.1%
Regions Financial Corporation	6.3%	6.9%	6.5%	6.9%	-
Citizens Financial Group, Inc.	5.6%	7.0%	-	6.9%	7.1%
The Bank of New York Mellon Corporation	2.7%	3.0%	2.8%	2.2%	2.5%
State Street Corporation	4.5%	4.9%	4.8%	5.4%	3.6%
<b>Median</b>	<b>5.4%</b>	<b>6.9%</b>	<b>5.8%</b>	<b>6.3%</b>	<b>6.1%</b>
<b>Northern Trust Corporation</b>	<b>5.7%</b>	<b>5.9%</b>	<b>5.6%</b>	<b>6.8%</b>	<b>7.1%</b>

Source: BofA Global Research, Federal Reserve

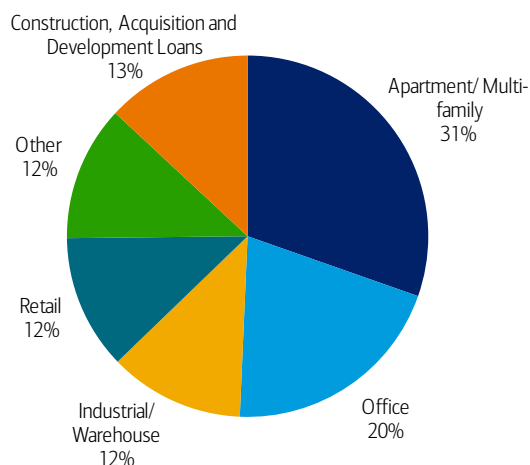
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Northern's CRE book is 12% of overall loans, primarily consisting of commercial mortgage and construction, acquisition, and development loans to experienced investors that have a relationship with the bank. Underwriting standards are conservative with ~95% personally guaranteed and ~70% with a loan-to-value ratio of less than or equal to 70%.

"The commercial real estate portfolio consists of commercial mortgages and construction, acquisition and development loans extended primarily to experienced investors well known to Northern Trust. Underwriting standards generally reflect conservative loan-to-value ratios and debt service coverage requirements. Recourse to borrowers through guarantees is also commonly required."

#### Exhibit 6: CRE portfolio diversified and conservatively underwritten

Commercial real estate loans, as of 2Q23 (\$5.04bn)

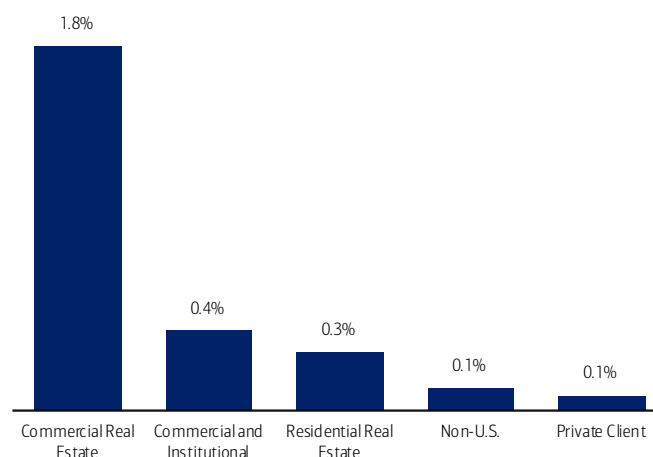


Source: BofA Global Research, Company filings  
As of 2Q23

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#### Exhibit 7: Mgmt. has a worsening outlook for CRE

Allowance for credit losses % loans



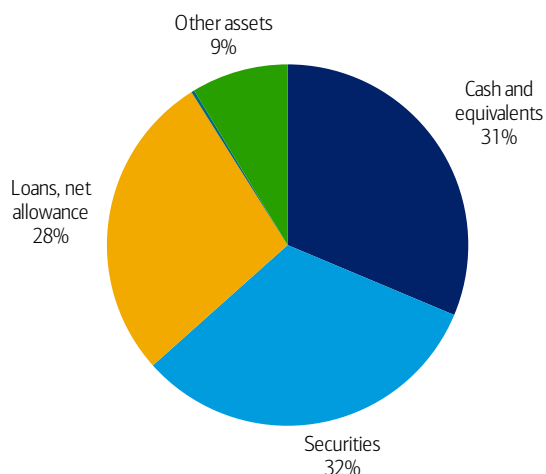
Source: BofA Global Research, Company filings  
As of 2Q23

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Northern's personal loans are predominantly private client loans (~67%), followed by residential real estate (~30%). Clients are largely ultra-high net worth. Commercial loans are largely C&I (~55%) and commercial real estate (~22%). The vast majority of the CRE loans are personally guaranteed. We do not see these loans as having an outsized risk to the bank's credit quality into a credit cycle given the extremely high-quality client base.

**Exhibit 8: Large cash and securities mix driver of asset repricing**

Asset mix, as of 2Q23 (\$156.8bn)



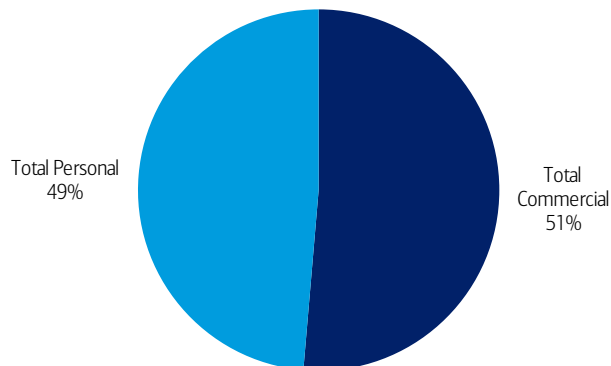
Source: BofA Global Research, Company filings

Footnote: Other assets also include federal funds sold, securities purchased under resale agreements, buildings and equipment, and goodwill  
As of 2Q23

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**Exhibit 9: Loan book diversified between channels**

Loan mix, as of 2Q23 (\$156.8bn)



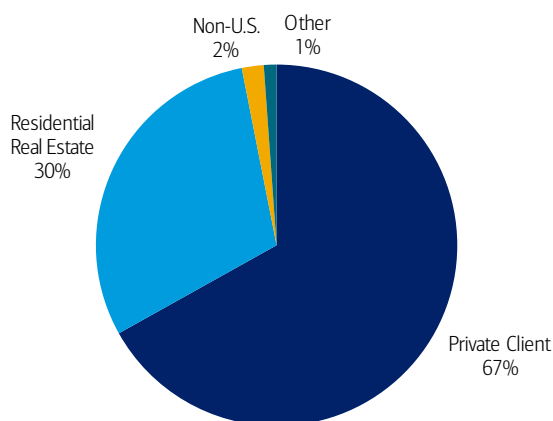
Source: BofA Global Research, Company filings

As of 2Q23

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**Exhibit 10: Personal loan clients are largely high net worth clients**

Personal loan mix, as of 2Q23 (\$21.2bn)



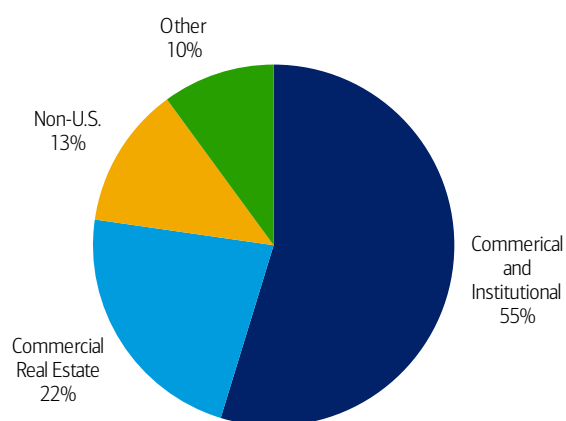
Source: BofA Global Research, Company filings

As of 2Q23

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**Exhibit 11: A large portion of CRE loans are personally guaranteed**

Commercial loan mix, as of 2Q23 (\$22.4bn)



Source: BofA Global Research, Company filings

As of 2Q23

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Similar to deposit betas, asset betas have also surpassed levels seen last cycle. Also, management should be able to mitigate some of the deposit pricing pressure by improving yields on the securities book.

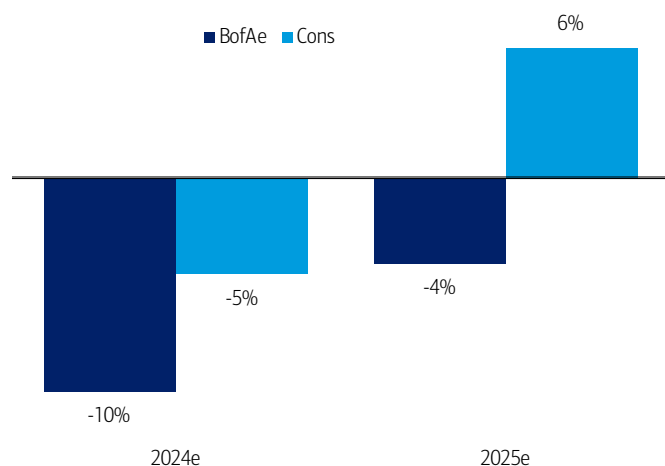
**Securities repricing should mitigate funding cost pressures**

We forecast net interest income -10%/-4% YoY for FY24/25. Northern should benefit from the repricing of the securities book (37% of avg. earning assets; yielding 2.97% as of 2Q23; duration 2.1 years). While Northern is not immune to funding cost pressures, as

evidenced by the recent negative update which mgmt. attributed to spread pressure and defending the deposit base, we believe the repricing on the asset side should mitigate the additional pressure on NII from rising funding costs. A large international interest-bearing deposit base (~60%) is influenced by local rate regimes and the risk of policy divergence among different central banks that can cause dispersion among client behavior. We forecast through cycle deposit beta of 84% by YE25 (does not assume any rate-cuts) vs. 68% as of 2Q23 and non-interest bearing deposit mix to decline to 15% from 17% as of 2Q23 and 20% pre-pandemic.

#### Exhibit 12: NII pressure from spreads and defending deposits

NII growth – BofAe vs. consensus

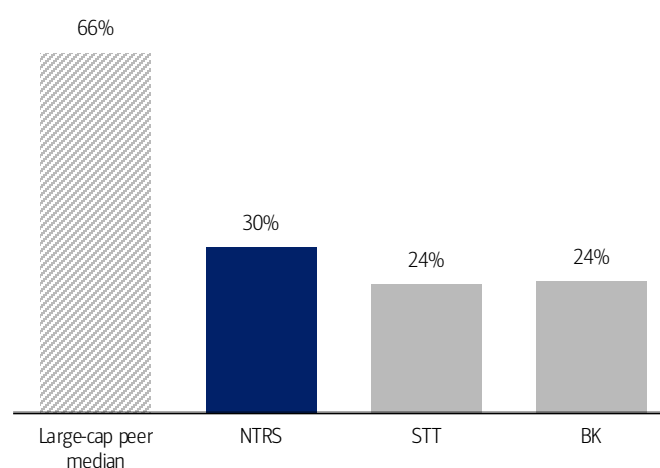


Source: BofA Global Research, Visible Alpha, Company filings

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#### Exhibit 13: NII is not a primary driver of NTRS revenue

NII as % of total revenue vs. peers, LTM 2Q23



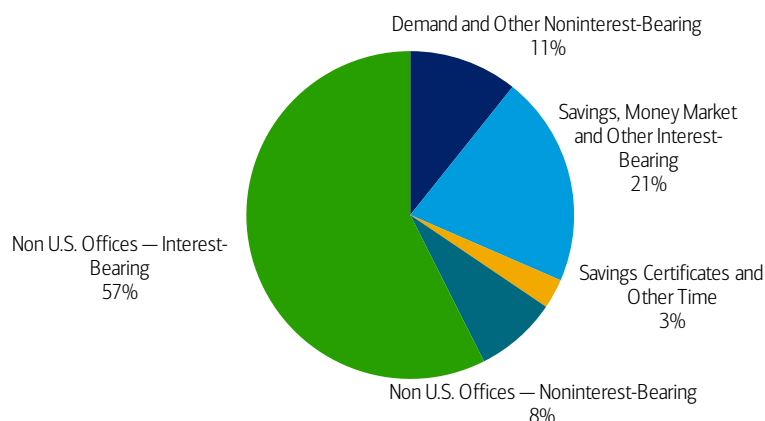
Source: BofA Global Research, S&P Capital IQ Pro, Company filings LTM 2Q23

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Operational deposits comprise approximately two-thirds of institutional deposits, which are typically the stickiest. The remainder of the deposit base is tied to wealth management clients.

#### Exhibit 14: NTRS deposit mix reflects a primarily sophisticated client base

Deposit mix, as of 2Q23 (\$113.2bn)



Source: BofA Global Research, S&P Capital IQ Pro, Company filings As of 2Q23

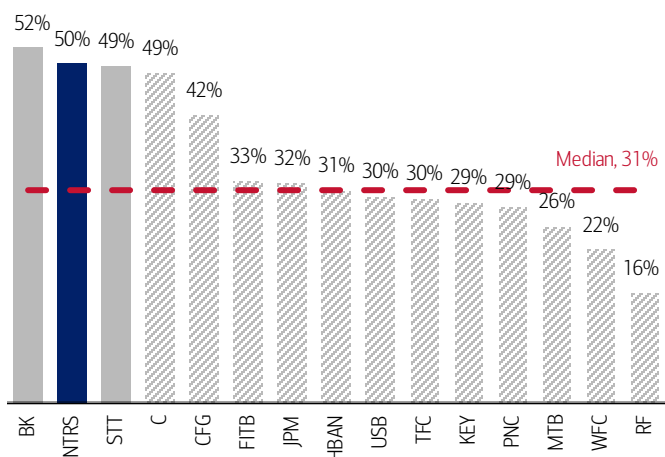
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Management expects institutional deposit betas to be ~100% while the wealth channel should be lower. We see continued repricing of deposits in a higher for longer rate backdrop as a significant source of downside EPS risk.

#### Exhibit 15: Deposit beta has been a headwind to NIM

Cumulative total deposit beta – 2Q23 vs 2Q19

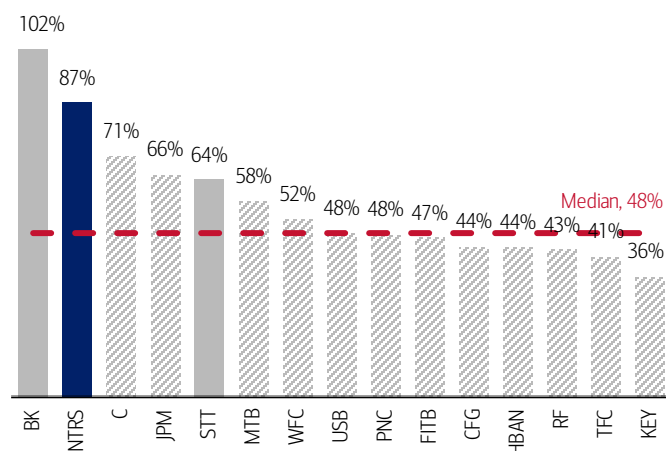


Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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#### Exhibit 16: NTRS shorter balance sheet drove higher asset repricing

Interest earning asset beta – 2Q23 vs 2Q19t



Source: BofA Global Research, S&P Capital IQ Pro, Company filings

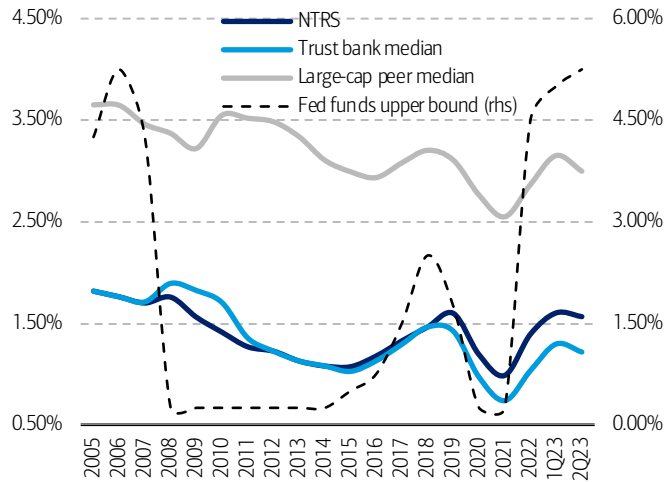
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Northern's institutional client base keeps margins suppressed as deposits reprice quickly. Net interest margin is also a proxy for risk. Higher risk assets tend to have a higher yield to compensate for higher risk. The lower NIM compared to traditional banking peers reflects high-quality balance sheet.



**Exhibit 17: NIM is not a primarily driver of revenue for NTRS**

Net interest margin

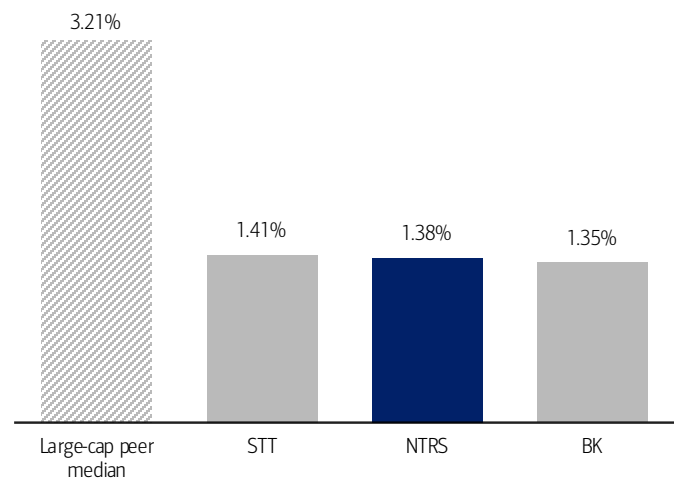


Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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**Exhibit 18: NTRS' historical average is among the lowest vs. peers**

Average net interest margin – 2005-2022



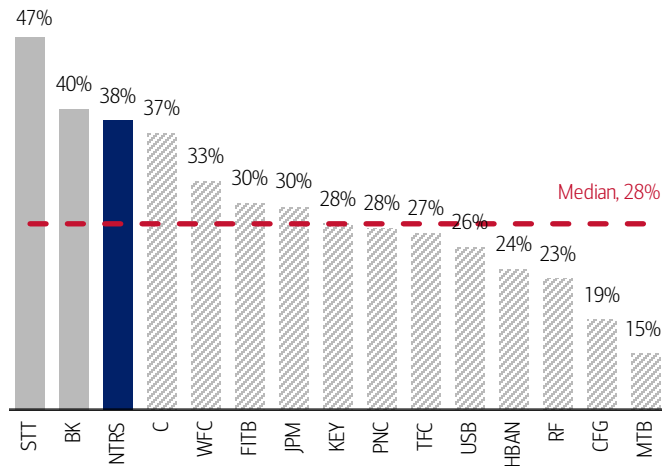
Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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Over time, repricing of the securities book can offer some net interest income defensibility if rates stay higher-for-longer. The strong liquidity relative to peers is also a positive differentiator allowing flexibility into an uncertain backdrop.

**Exhibit 19: Securities may provide funding as deposits run-off**

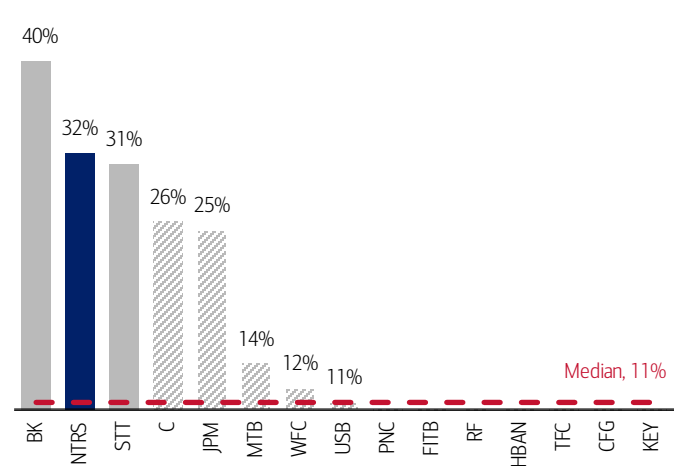
Avg. securities as % of AEA, as of 2Q23

Source: BofA Global Research, S&P Capital IQ Pro, Company filings  
As of 2Q23

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**Exhibit 20: Liquidity among trust bank is extremely strong**

EOP cash as % EOP assets, as of 2Q23

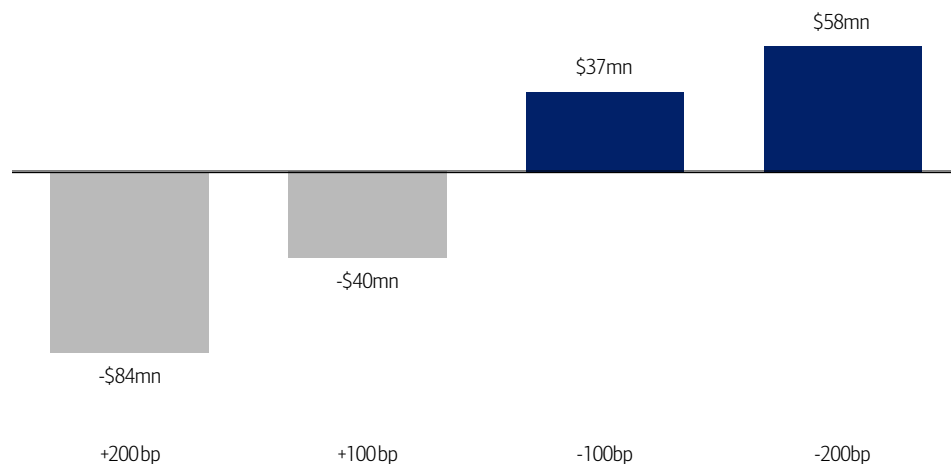
Source: BofA Global Research, S&P Capital IQ Pro, Company filings  
As of 2Q23

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A decrease in interest rates beyond the forward curve implies upside to net interest income.

#### Exhibit 21: Well positioned for rate cuts, \$37mn / \$58mn are 2% / 3% of FY22 NII

Net interest income sensitivity, est. impact on next 12 months vs rate moves above/below implied fwd rates



Source: BofA Global Research, Company filings

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## #2 Self-help ongoing: expenses, capital return

Management is intensely focused on productivity improvement with the goal of lowering the expense to trust fee ratio to 105-110% vs. 118% LTM and pre-tax margin to +30% vs. 24%. We forecast expense growth of +1% YoY for FY24/25, which implies an expense to trust fee ratio of 115%/111% and a pre-tax margin of 25%. Capital return potential is also significant, with excess CET1 capital 400bp above regulatory minimum at 11.3% or 25% of market-cap. We forecast total payout ratio of ~90% for FY24/25.

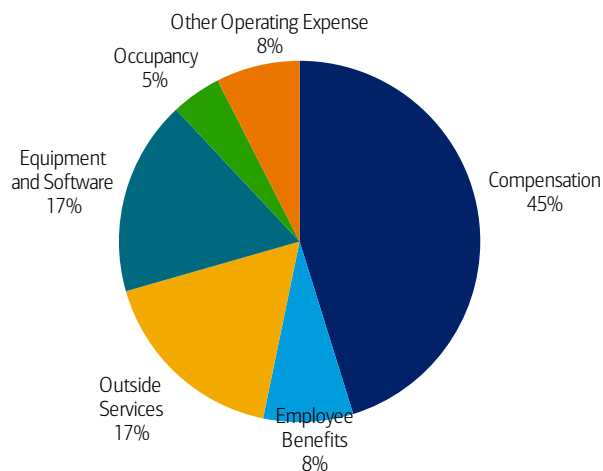
### Productivity focus, tempering tech spend to boost efficiency

Management has highlighted flexing efficiency as a key priority and is leveraging an internal Productivity Office to bring costs down and ensure that internal investments are meeting hurdle rates. Technology spend is the bank's second-biggest cost, reaching over \$1bn per year. But management expects the growth (CAGR of 8%) rate to be slower in the next 5 years than in the last few years. Technology spend mix is 50% business-driven, 40% core infrastructure & modernization, and 10% risk and information security. Management recently revised its FY23 expense growth guidance to 6% or better YoY from 7% or better, not including an FDIC special assessment. We forecast YoY expense growth of +1% FY24/25.

We view the expense reduction more as savings and productivity gains rather than cutting costs at the detriment to franchise value. As we commented in a recent note ([US Banks: Talking Stocks: Solving the wrong problem? 04 September 2023](#)), it is more important for management teams to position the franchise correctly with talent, technology, business mix, and market presence, rather than cutting expenses too aggressively and losing talent, missing opportunities to gain market share, and under-investing in initiatives.

**Exhibit 22: Majority of expenses are employee related**

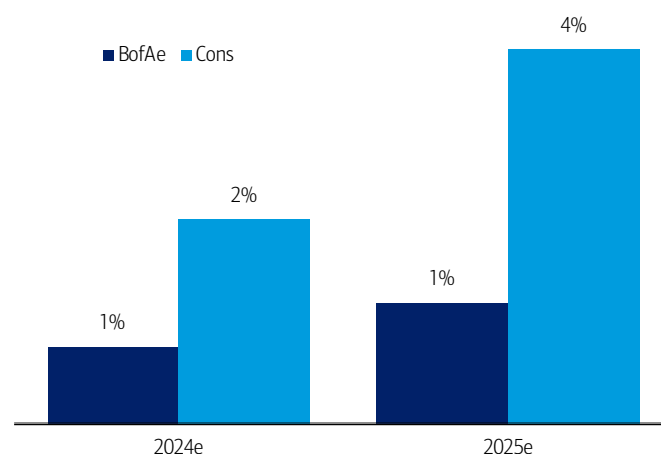
Expenses, LTM 2Q23 (\$5.2bn)

Source: BofA Global Research, Company filings  
LTM 2Q23

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**Exhibit 23: Forecasting expense growth conservatively relative to cons**

Expense growth – BofAe vs. consensus



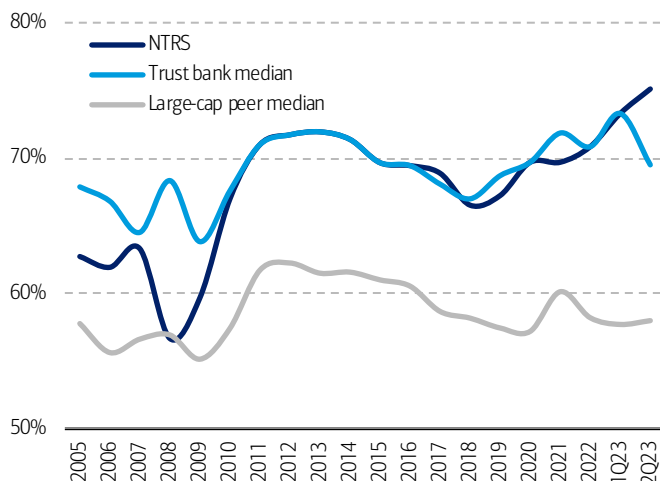
Source: BofA Global Research, Visible Alpha, Company filings

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Northern Trust's efficiency ratio has picked up in recent quarters and we are forecasting 75% across FY24/25.

**Exhibit 24: NTRS has trended higher than peers...**

Efficiency ratio

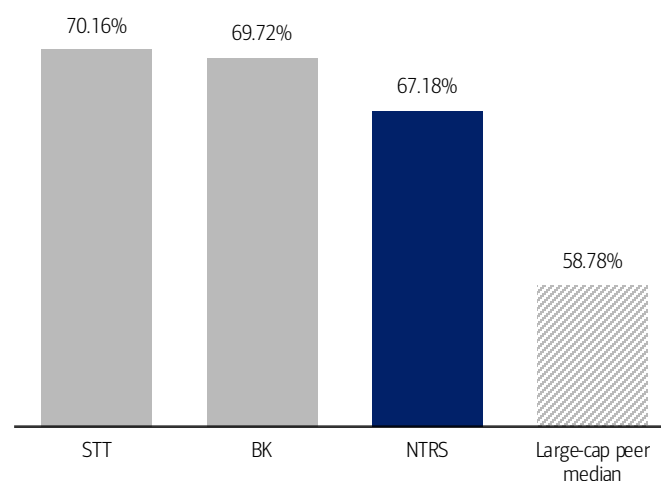


Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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**Exhibit 25: ...but has been lower than trust bank peers on average**

Average efficiency ratio – 2005-2022



Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings

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**Capital return should add to EPS defensibility**

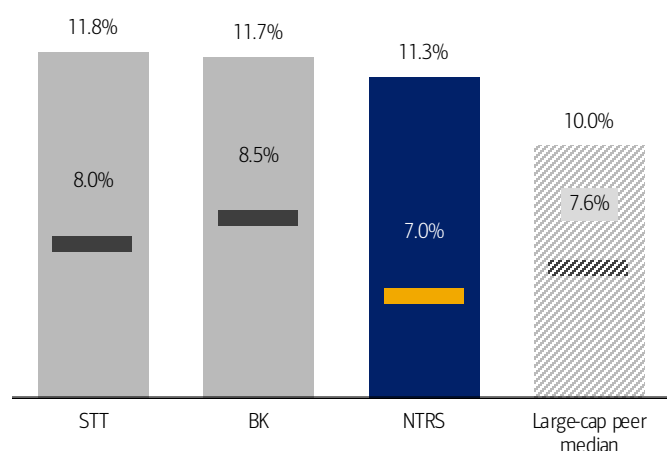
Capital flexibility is another valuable self-help lever as the sector faces higher capital requirements. Northern currently has 400bp+ in excess capital relative to minimum regulatory requirements which should allow for continued share buybacks. It has a standardized common equity tier 1 (CET1) ratio of 11.3% vs. 7.0% regulatory minimum. We forecast share buybacks of \$400mn/\$500mn/\$575mn for FY23/24/25. Management sees a pace of ~\$100mn per quarter as reasonable but may adjust based on the FDIC special assessment. A tailwind to capital, although not unique, is the pull to par of losses



tyed to the bond book which should add ~160bp to the CET1 capital ratio and ~90bp the tangible common equity to tangible assets ratio over the next couple of years. Following the Federal Reserve's 2023 stress test, the preliminary stress capital buffer (SCB) will be the 2.5% minimum, 7.0% CET1 requirement effective October 1, 2023. The dividend has remained stable at \$0.75 per share. Excess capital also allows flexibility into Basel III regulations. Operational risk is expected to have an upward impact, partially offset by a benefit from different components of lending pointing to 10-15% RWA inflation.

#### Exhibit 26: 2Q23 CET1 11.3%

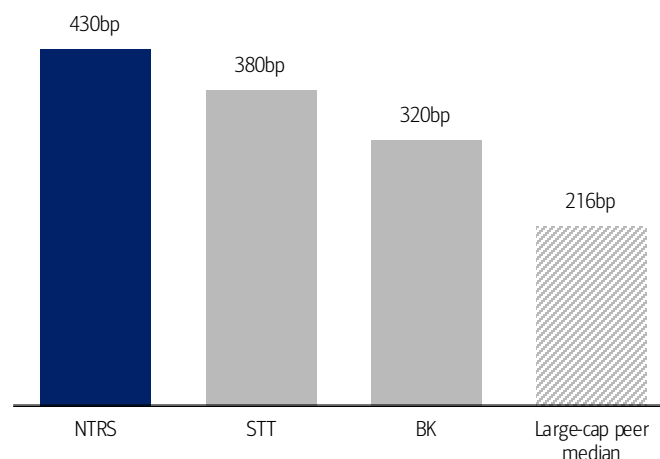
2Q23 CET1 vs. October 1, 2023 requirement



Source: BofA Global Research, S&P Capital IQ Pro, Company filings, Federal Reserve  
BofA GLOBAL RESEARCH

#### Exhibit 27: CET1 requirement will be 7.0%

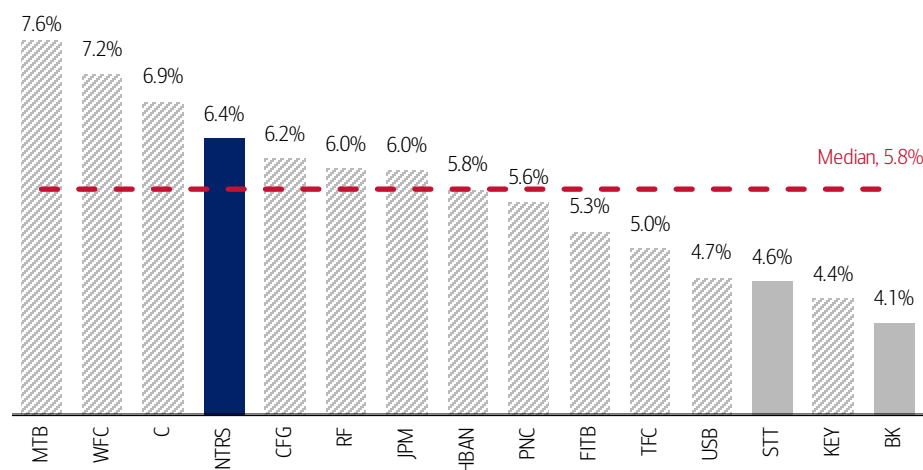
Excess above October 1, 2023 CET1 requirement



Source: BofA Global Research, S&P Capital IQ Pro, Company filings, Federal Reserve  
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#### Exhibit 28: Northern capital cushion above median, provides optionality

Tangible common equity/tangible assets

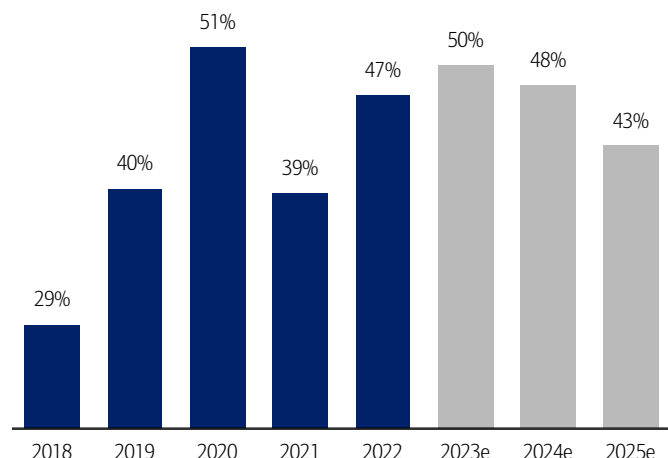


Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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**Exhibit 29: Dividend payout ratio expected to decrease**

Dividend payout ratio and consensus estimates

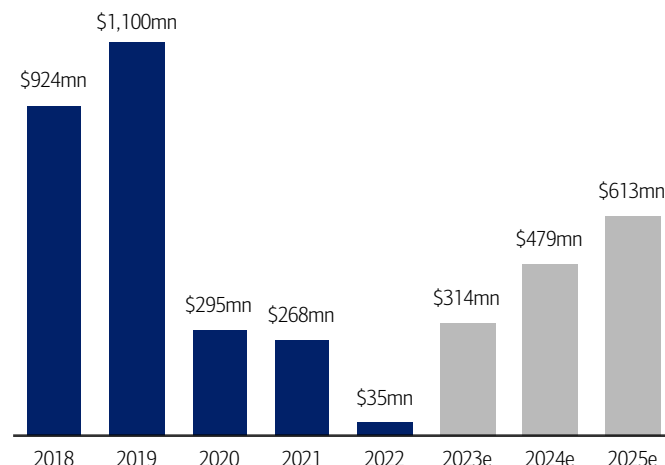


Source: BofA Global Research, Visible Alpha, Company filings

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**Exhibit 30: Consensus expecting a recovery in buybacks**

Share buybacks and consensus estimates



Source: BofA Global Research, Visible Alpha, Company filings

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**#3 Fee revenue should prove resilient**

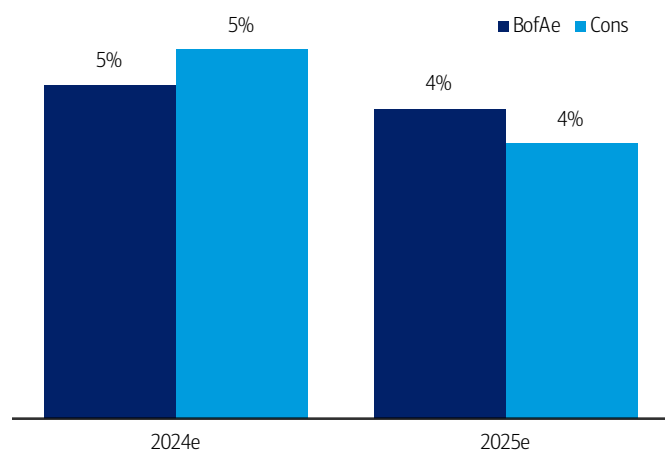
Northern derives 70% of revenues via fee income, underpinned by asset prices. BofA Equity strategy team's 12-month forecast calls for the S&P 500 +6% vs. current levels; 10yr UST yield 4.0% vs. 4.8% currently. Therefore, we think this is decent backdrop to grow fee revenues via client acquisitions and increased wallet share.

The two main drivers of fees are based on \$14.5trn assets under custody/administration (AUC/A) and \$1.4trn assets under management (AUM), which is driven by organic growth and the market value of assets held in custody, managed, or serviced, along with transaction volume, securities lending volume and spreads, and other service fees.

BofA strategy and rates teams forecast YE23 S&P 500 target of 4,600 (or +6% from current levels) and 10yr UST yields at 4.0% vs 4.8% currently. We forecast +5%/+4% fee growth for FY24/25.

**Exhibit 31: Forecasting fee growth to outpace NII**

Fee growth – BofAe vs. consensus

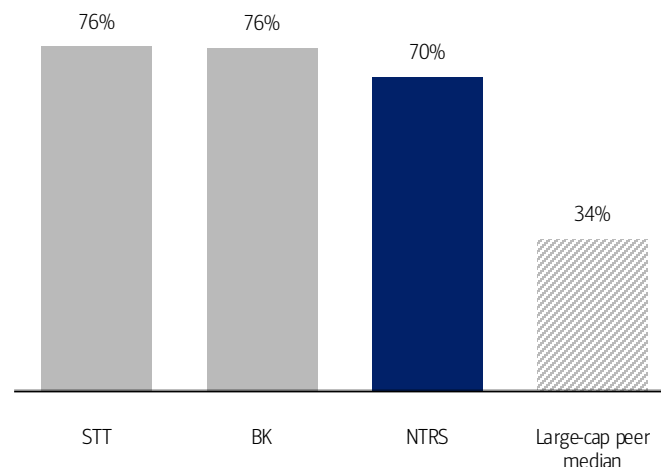


Source: BofA Global Research, Visible Alpha, Company filings

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**Exhibit 32: Trust bank revenue heavily reliant on fees**

Fees as % of total revenue vs. peers, LTM 2Q23

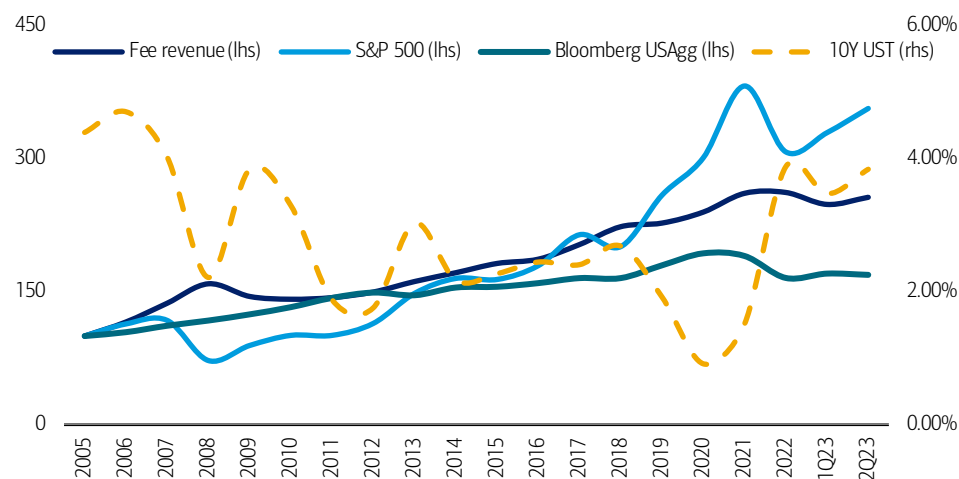


Source: BofA Global Research, S&amp;P Capital IQ Pro, Company filings LTM 2Q23

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**Exhibit 33: Fees have seen a 4.8% CAGR, high correlation with stocks (0.94) and bonds (0.89)**

Fee revenue vs S&amp;P 500 and 10Y UST – Indexed to 100



Source: BofA Global Research, Bloomberg, S&amp;P Capital IQ Pro, Company filings

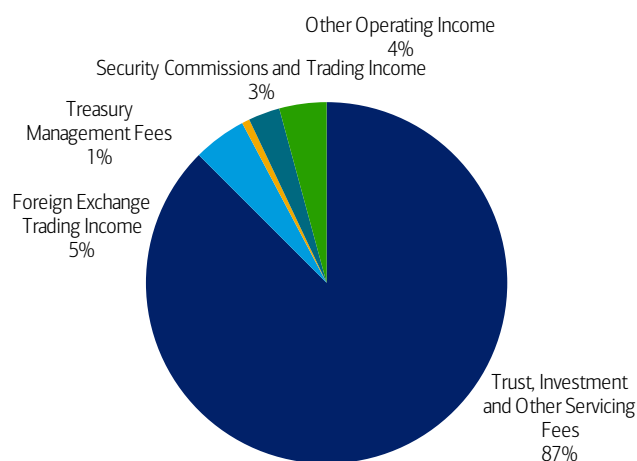
Note: S&amp;P 500, Bloomberg USAgg, 10Y UST are year-end values, 1Q23-2Q23 annualized

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**Exhibit 34: Fees are underpinned by asset prices and organic growth**

Total noninterest income, LTM 2Q23 (\$4.7bn)



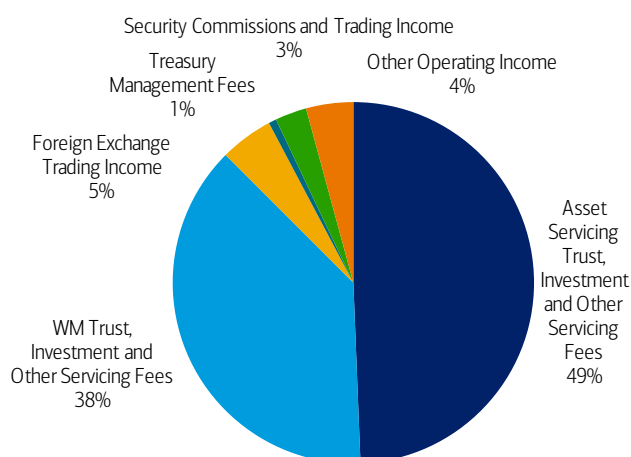
Source: BofA Global Research, Company filings

Note: Excludes Investment Security Gains (Losses), net (-\$207.1mn)  
LTM 2Q23

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**Exhibit 35: Not reliant on only one business for fees**

Total noninterest income, LTM 2Q23 (\$4.7bn)



Source: BofA Global Research, Company filings

LTM 2Q23

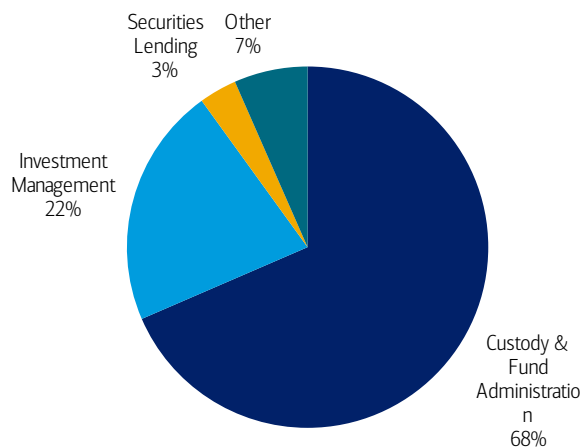
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**Asset Servicing: 58% of revenues**

During 1Q22, Northern Trust changed the name of its Corporate & Institutional Services (C&IS) segment to Asset Servicing (58% of revenues). The segment is a leading global provider of asset servicing and related services to corporate and public retirement funds, foundations, endowments, fund managers, insurance companies, sovereign wealth funds, and other institutional investors. The full range of capabilities include custody, fund administration, investment operations outsourcing, investment management, investment risk and analytical services, employee benefit services, securities lending, foreign exchange, treasury management, brokerage services, transition management services, banking, and cash management. The bank services clients across North America, Europe, the Middle East, and the Asia-Pacific region.

**Exhibit 36: Mgmt. highlighted strong custody and fund admin pipeline**

Asset Servicing Trust, Investment and Other Servicing Fees (\$2.4bn)



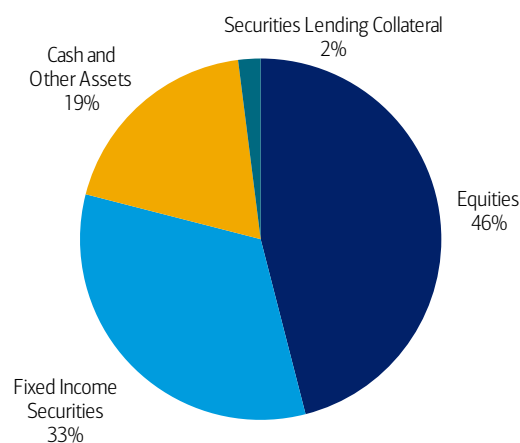
Source: BofA Global Research, Company filings

LTM 2Q23

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**Exhibit 37: Primarily weighted toward equities**

Asset Servicing AUC by investment type, as of 2Q23 (\$10.3tn)



Source: BofA Global Research, Company filings

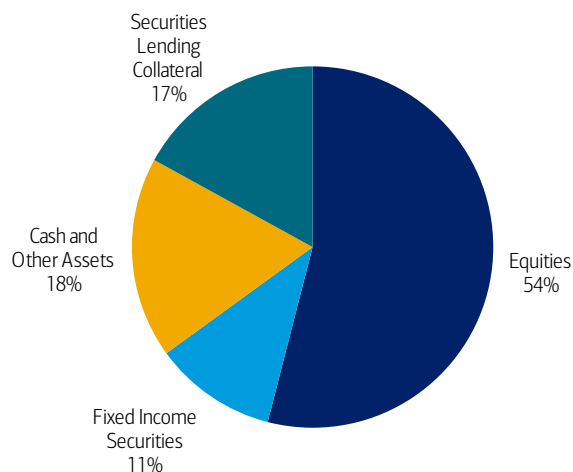
As of 2Q23

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**Exhibit 38: Primarily weighted toward equities**

Asset Servicing AUM by investment type, as of 2Q23 (\$990bn)



Source: BofA Global Research, Company filings  
As of 2Q23

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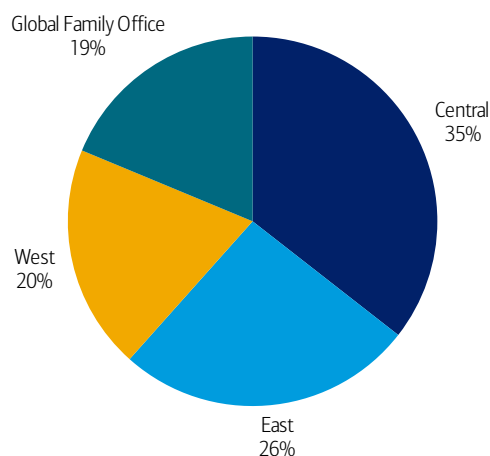
**Wealth Management: 42% of revenues**

The Wealth Management (42% of revenues) segment caters to high-net-worth individuals and families, business owners, executives, professionals, retirees, and established privately-held businesses. The segment provides trust, investment management, custody, and philanthropic services, financial consulting, guardianship and estate administration, family business consulting, family financial education, brokerage services, and private and business banking. Wealth Management also includes Global Family Office, which provides customized services, including investment consulting, global custody, fiduciary, private banking, family office consulting, and technology solutions to meet the complex financial and reporting needs of ultra-high-net-worth individuals and family offices. The segment's services are delivered through offices in 19 U.S. states and Washington, D.C., as well as London, Guernsey, and Abu Dhabi.



**Exhibit 39: Mgmt. sees strength in higher wealth tiers and GFO**

Wealth Mgmt. Trust, Investment and Other Servicing Fees (\$1.9bn)

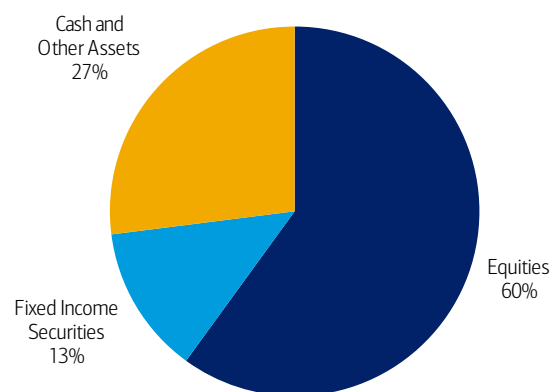


Source: BofA Global Research, Company filings  
LTM 2Q23

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**Exhibit 40: Primarily weighted toward equities**

Wealth Management AUC by investment type, as of 2Q23 (\$989bn)

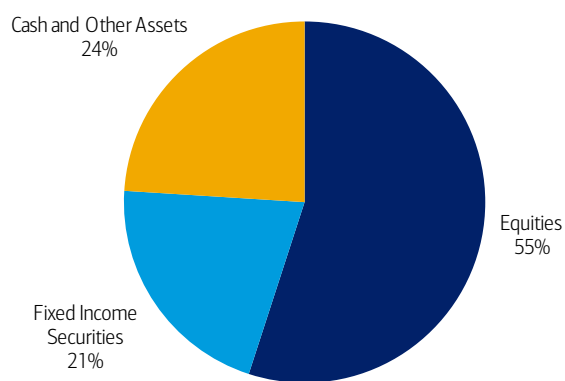


Source: BofA Global Research, Company filings  
As of 2Q23

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**Exhibit 41: Primarily weighted toward equities**

Wealth Management AUM by investment type, as of 2Q23 (\$376bn)



Source: BofA Global Research, Company filings  
As of 2Q23

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**Supporting segment: Asset Management**

Asset Management supports Asset Servicing and Wealth Management by providing a broad range of asset management and related services and other products to clients. Investment solutions are delivered through separately managed accounts, bank common and collective funds, registered investment companies, exchange traded funds, non-U.S. collective investment funds, and unregistered private investment funds. The capabilities include active and passive equity, active and passive fixed income, cash management, multi-asset and alternative asset classes, and multi-manager advisory services and products, as well as overlay services and other risk management services. The revenue and expenses of Asset Management and certain other support functions are allocated fully to Asset Servicing and Wealth Management.



### Assets Under Custody & Admin (AUC/A) and Assets Under Management (AUM)

Northern Trust is the smallest of the trust banks by assets under custody/administration (AUC/A) at \$14.5tn as of 2Q23, with a substantial tilt toward equities. A majority of these assets sit within the Asset Servicing segment and drive Custody and Fund Administration fees through asset prices and organic growth. Northern is also the smallest of the trust banks by assets under management (AUM) at \$1.4tn as of 2Q23, with a substantial tilt toward equities. A majority of these assets sit within the Asset Servicing segment and drive Investment Management fees through asset prices and organic growth.

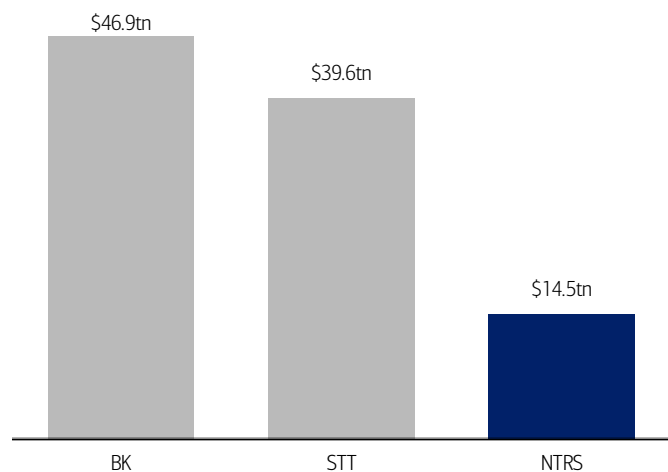
BofA expects sizable reallocations into money market and fixed income in 2H23, especially following a Fed pause. Also, recent trends have pointed to equity outflows in active vs. accelerated inflows into passive. Both active and passive fixed income saw positive net flows with passive exceeding active. While asset flows may be a headwind to Northern's AUM given the heavy weight toward equities, an infrastructure to gain market share in other asset classes exists as the mutual fund family offers equity, fixed income, real asset, and multi-asset strategies. On the AUC/A side, the end client is exposed to these industry trends, which affects the mix of the assets and strategies. We note another factor besides flows of the market appreciation/depreciation of the assets.

North American Asset Managers, Brokers & Exchanges Team research: [Traditional Asset Managers: Global Asset Manager BULL: Passive/ETF fixed income & MMF migration continues 18 July 2023](#)

The value of client assets under AUC/A is one of the primary drivers of Custody and Fund Administration fees, the largest portion of Asset Servicing fees.

#### Exhibit 42: Northern Trust has \$14.5tn in AUC/A

Assets under custody/administration, as of 2Q23

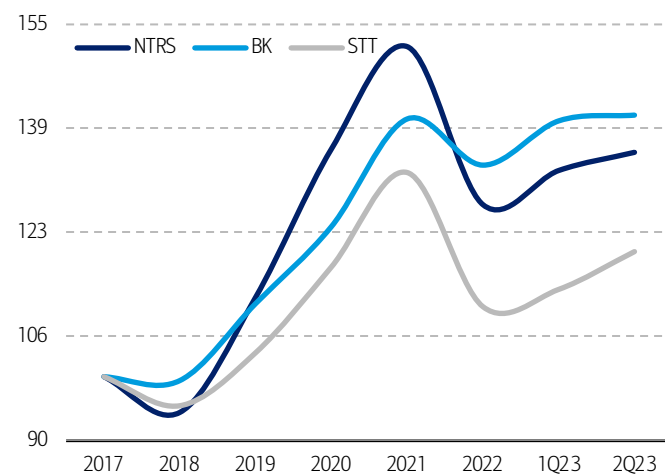


Source: BofA Global Research, S&P Capital IQ Pro, Company filings  
As of 2Q23

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#### Exhibit 43: Northern AUC/A CAGR 3.8% since 2017

Assets under custody/administration indexed to 100

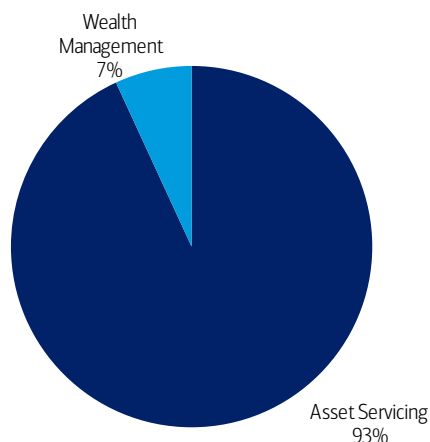


Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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**Exhibit 44: Custody business primarily in the Asset Servicing segment**

AUC/A by reporting segment, as of 2Q23

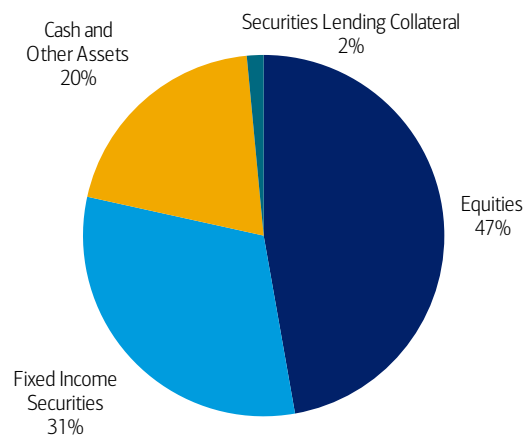


Source: BofA Global Research, Company filings  
As of 2Q23

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**Exhibit 45: Positioned for flows in multiple asset classes**

AUC by investment type, as of 2Q23



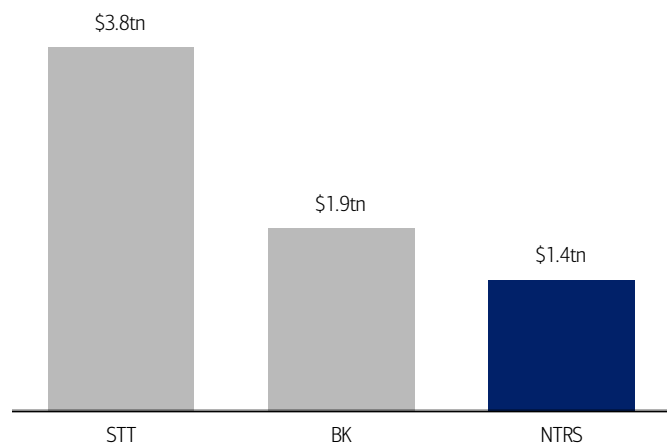
Source: BofA Global Research, Company filings  
As of 2Q23

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The market value of client AUM is a main driver of Investment Management fees contributing to revenue across both Asset Servicing and Wealth Management.

**Exhibit 46: Northern Trust has \$1.4tn in AUM**

Assets under management, as of 2Q23

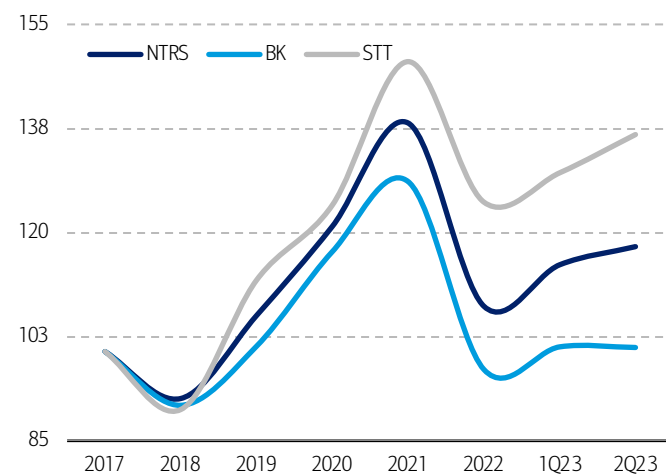


Source: BofA Global Research, S&P Capital IQ Pro, Company filings  
As of 2Q23

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**Exhibit 47: Northern AUM CAGR 2.1% since 2017**

Assets under management indexed to 100

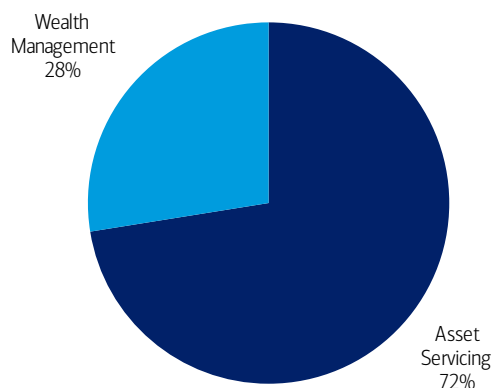


Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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**Exhibit 48: Majority of AUM within Asset Servicing**

AUM by reporting segment, as of 2Q23

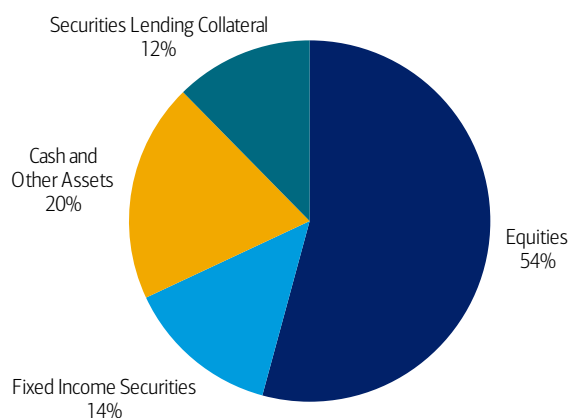


Source: BofA Global Research, Company filings  
As of 2Q23

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**Exhibit 49: Positioned for flows in multiple asset classes**

AUM by investment type, as of 2Q23



Source: BofA Global Research, Company filings  
As of 2Q23

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Money in motion is also a driver of the wealth management business and fees for Northern Trust. When there is a liquidity event, the bank has an opportunity to capture fee generating client assets.

## Valuation discounting cyclical headwinds

The stock trades at 11x 2024 P/E vs. 16x 5yr pre-pandemic median and 1.3x P/YE23e TBV vs. our forecast for a return on tangible common equity of ~12% for FY24/25. It is also trading at a discount relative to its two trust bank peers – BK & STT – relative to history. We see potential for multiple expansion on confidence around macro-outlook (interest rates, equity markets, geo-politics). Our P/TBV multiple reflects the ROTCE potential for the banks. Our EPS forecast implies +1%/+9% YoY growth for FY24/25. A sharp decline in asset prices or higher funding costs are two key risks to our EPS forecast.

While credit risk is limited, we note that NTRS (and its trust bank peers) shares could continue to exhibit above average stock volatility in the current environment given an end client that is directly (and on a real time basis) impacted by the volatility of the public markets and a deposit base that is significantly more sensitive to changes in market interest rates (Fed rate hikes, QT). We also note that NTRS is not immune to any sector-wide selloffs as seen earlier this year during the banking crisis.

### Downside risks to our thesis/EPS forecast include:

- A severe selloff in equity/bond markets that could put downward pressure on fee growth.
- M&A that could temper capital return as management would likely have to pause buybacks to build capital ahead of a deal.
- Further aggressive monetary policy could put pressure on deposit costs given the large institutional client base.
- Any pressure to the asset management industry is a risk since this is a large portion of the client base.

**Exhibit 50: Currently trading at 10.8x vs. median of 16.5x**

Northern Trust Forward P/E



Source: BofA Global Research, Bloomberg

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**Exhibit 51: Currently 31% vs median of 35%**

Northern Trust vs. BKX Forward P/E

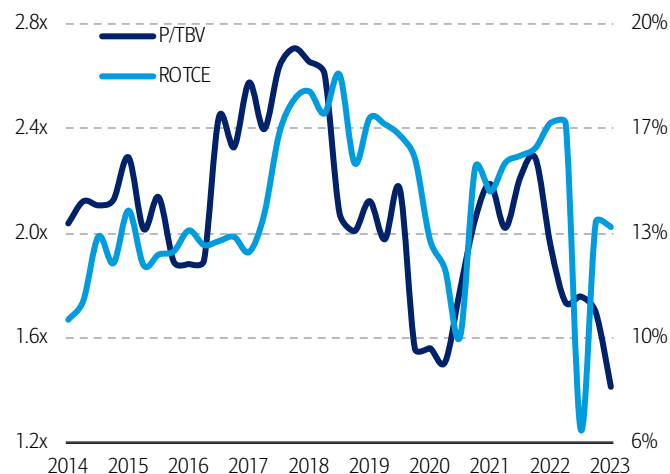


Source: BofA Global Research, Bloomberg

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**Exhibit 52: Currently trading at 1.3x vs. median of 2.1x**

Northern Trust P/TBV vs ROTCE

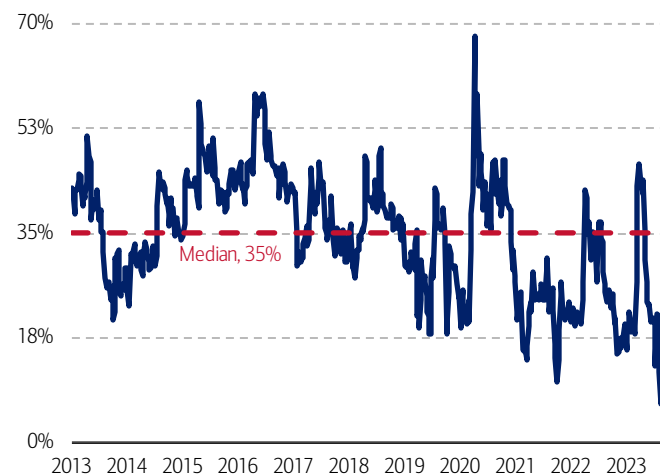


Source: BofA Global Research, Bloomberg

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**Exhibit 53: Currently 2% vs median of 35%**

Northern Trust vs. BKX P/TBV



Source: BofA Global Research, Bloomberg

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**EPS to benefit from tailwinds in medium-term**

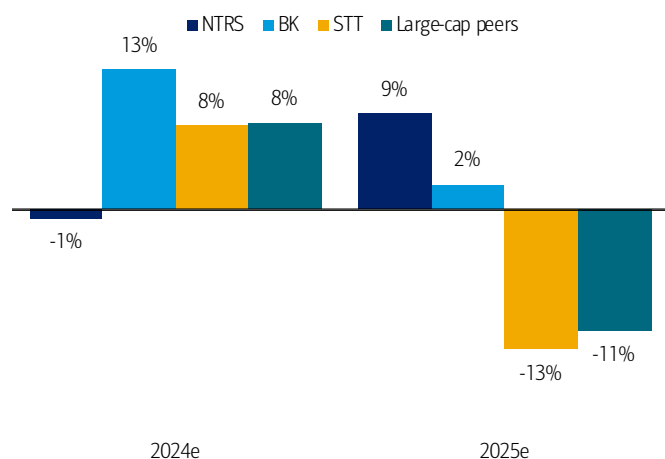
We expect Northern's EPS to face the headwinds of deposit repricing in the near-term but asset repricing, expense management, sustainable buybacks from capital flexibility should drive EPS growth over the medium-term.

We forecast EPS of \$6.27 for FY23, \$6.22 for FY24, and \$6.76 for FY25, implying -12%/-1%/+9% YoY growth, respectively. We note that we are below consensus reflecting conservative forecasting into a possible worsening macro environment. Northern should benefit from diversified revenue sources stemming from a custody business and best-in-class wealth management business. Asset repricing should be a tailwind with a short duration balance sheet (less than 1 year, securities duration 2.1 years). Expense discipline will be a valuable self-help lever as management focuses on productivity and being more strategic in investing to expand margins. Capital and liquidity positioning is a differentiator as investors have become focused on flexibility following the Fed's proposal on capital changes.



**Exhibit 54: NTRS will face headwinds in 2023 vs peers however...**

BofAe EPS growth

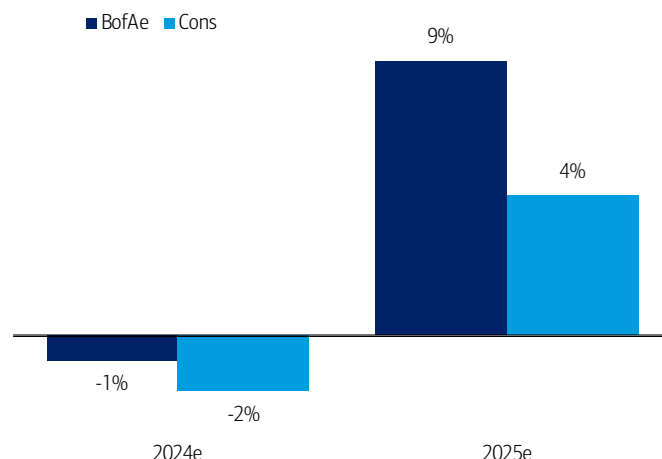


Source: BofA Global Research, Visible Alpha

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**Exhibit 55: ...we see opportunity for EPS growth in 2024-2025**

BofAe vs. Consensus EPS growth



Source: BofA Global Research, Visible Alpha

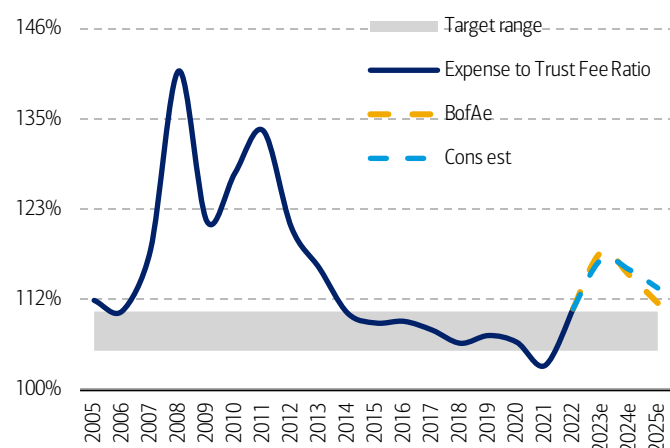
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Management set targets for expense-to-trust fee ratio (105-110%) and pre-tax margin (+30%). These key performance indicators (KPIs) will allow investors to track management's progress. Consensus expects trust fee ratio to rise in 2023 reflecting flat trust fees as expenses continue to grow (+5% YoY) before decreasing back toward the target range, but not meeting it, as trust fees are expected to rebound in 2024 and 2025. We forecast FY24/FY25 expense to trust fee ratio of 115%/111% reflecting expense growth of 1%/1% and trust fee growth of 5%/5%. Consensus estimates are not optimistic that management will meet the pre-tax margin expansion target by 2025 as pre-tax income falls 12% YoY in 2023 before returning to growth in 2024 and 2025 (+2%, +5% respectively) as revenue grows 0%/2%/4% in FY23/FY24/FY25. We forecast FY24/25 pre-tax margin of 25%/25% reflecting pre-tax income of -1%/+5% and revenue growth of +1%/+2%.

Management set targets for expense to trust fee ratio (105-110%) and pre-tax margin (+30%). Management has also discussed ROE of 10-15% as fundamental to the company.

**Exhibit 56: Cons. sees improvement toward target driven by trust fees**

Expense to trust fee ratio target of 105-110%

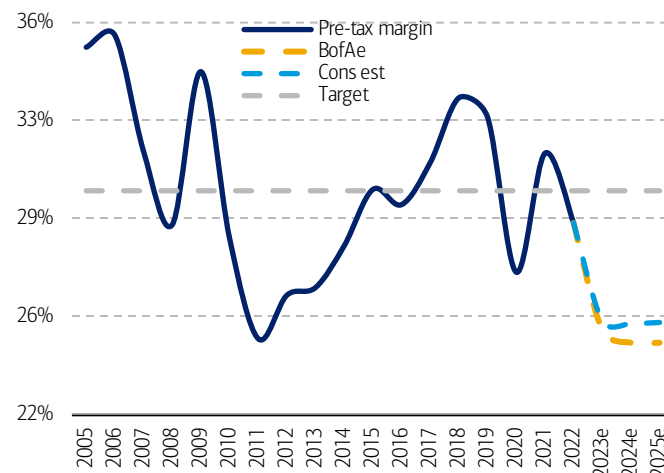


Source: BofA Global Research, S&amp;P Capital IQ Pro, Visible Alpha, Company filings

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**Exhibit 57: BofA and consensus is not estimating NTRS reach target**

Pre-tax margin target of +30%

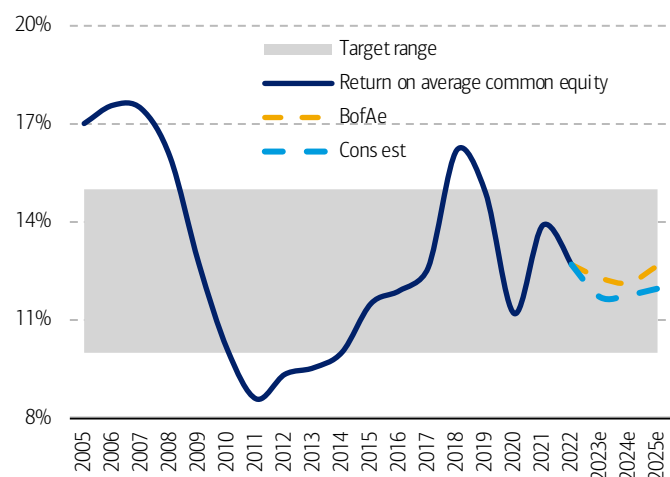


Source: BofA Global Research, S&amp;P Capital IQ Pro, Visible Alpha, Company filings

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**Exhibit 58: Mgmt. is expected to continue to stay within range**

ROE target of 10-15%



Source: BofA Global Research, S&amp;P Capital IQ Pro, Visible Alpha, Company filings

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**Stock performance and short interest**

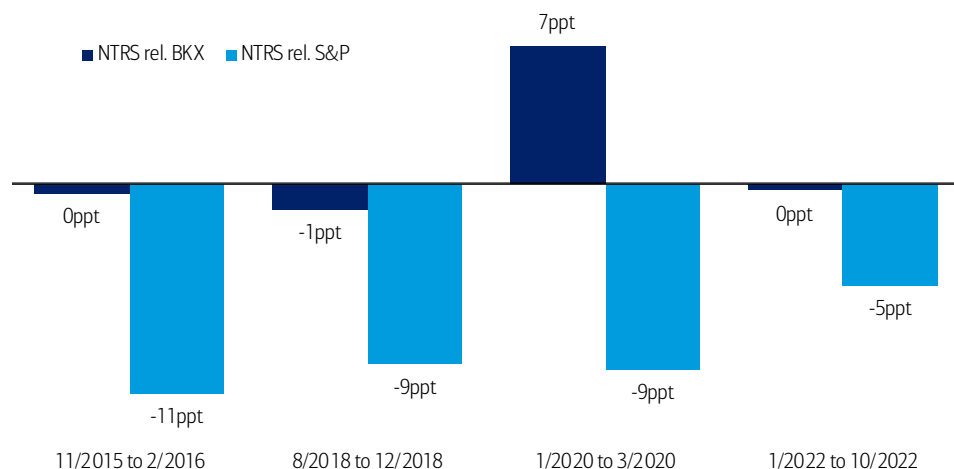
Northern Trust has performed in line with peers (BKX index) in the last 10 years. The short interest ratio has been volatile but fell (2.2% vs. 3.0% median) while the short interest as % of float (1.6% vs 1.5% median) is moderately above the ~18-month median, likely due to the market's caution around higher-for-longer rates with a sophisticated institutional deposit base, especially as peers struggle to model the repricing of their books.

We note that Northern's stock is high beta and will fall more in periods of severe equity market selloffs. This is a risk also faced by the end client (on a real time basis) as AUC/A and AUM levels are impacted by market levels. We also note that the stock has performed better or relatively in line with bank peers (BKX Index) during these time periods. Northern outperformed the BKX 1ppt on average in 4 severe market selloffs (S&P -13%, -19%, -33%, -25%) but underperformed the S&P by 9ppt on average.

**Exhibit 59**

**Exhibit 59: Severe selloffs are a risk to the stock and Northern's client base**

NTRS relative performance, ppt

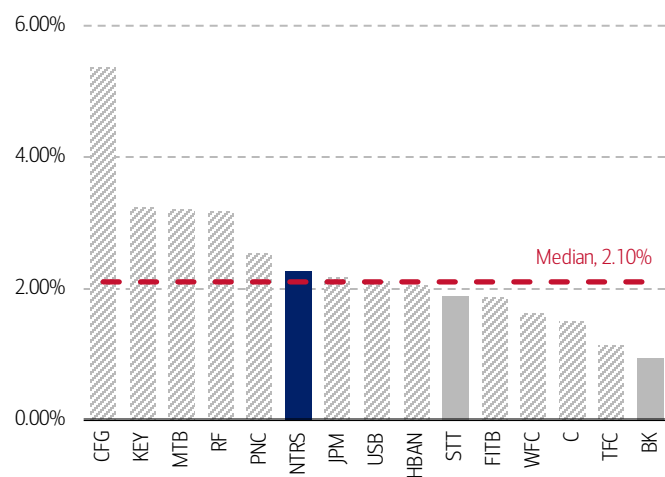


Source: BofA Global Research, Bloomberg

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**Exhibit 60: NTRS short interest leaves the possibility...**

Short interest ratio

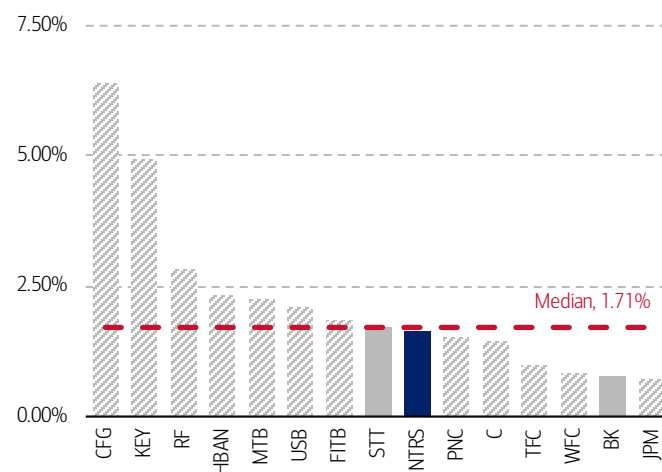


Source: BofA Global Research, Bloomberg

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**Exhibit 61: ...for a bounce if shorts cover**

Short interest as % of float



Source: BofA Global Research, Bloomberg

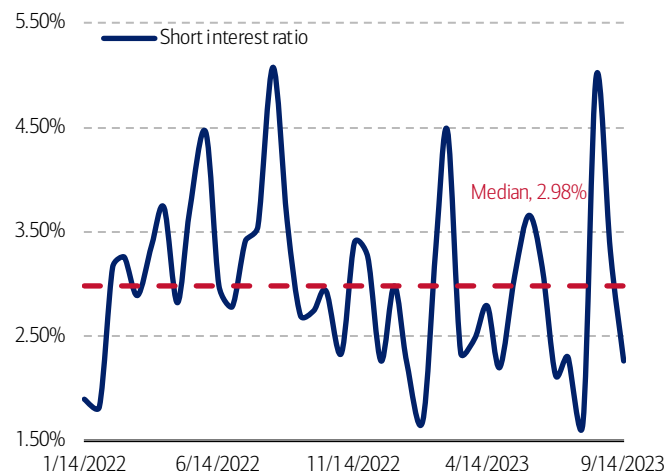
BofA GLOBAL RESEARCH

Shorts may clear if investors become more comfortable with management's net interest income outlook and the repricing of the back book, especially as some peers have missed their guidance due to these pressures.



**Exhibit 62: NTRS short interest ratio of 2.2% (as of 9/15/2023)**

NTRS short interest ratio

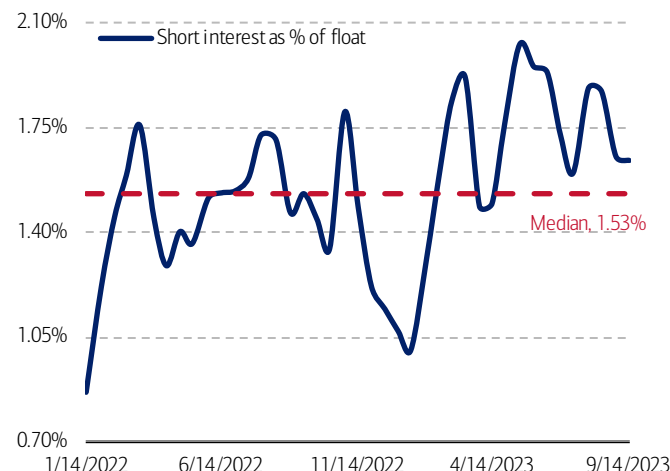


Source: BofA Global Research, Bloomberg

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**Exhibit 63: NTRS short interest as % of float of 1.6% (as of 9/15/2023)**

NTRS short interest as % of float



Source: BofA Global Research, Bloomberg

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## Company and Management Overview

Northern Trust, headquartered in Chicago and founded in 1889, is a provider of wealth management, asset servicing, asset management and banking solutions to corporations, institutions, families, and individuals. The company serves clients through its two client-reporting segments: Asset Servicing (previously Corporate & Institutional Services – C&IS) and Wealth Management. Asset management and related services are provided to Asset Servicing and Wealth Management clients primarily by the Asset Management business. The company operates globally with offices in 23 U.S. states and Washington, D.C., as well as 23 locations in Canada, Europe, the Middle East and the Asia-Pacific region.

**Michael O’Grady joined Northern Trust in 2011** and has served as Chairman of the Board since 2019, CEO since 2018, and President since 2017. Prior to that, he held a variety of roles including Executive Vice President and President of Corporate & Institutional Services, as well as CFO. Before joining the company, he served as a Managing Director in Bank of America Merrill Lynch’s Investment Banking Group.

**Jason Tyler joined Northern Trust in 2011** and has served as Executive Vice President and CFO since 2020. Prior to that, he was CFO of Wealth Management, Global Head of Asset Management’s Institutional Group, and Global Head of Strategy. Before joining the company, he had a variety of roles at Ariel Investments and Bank One/American National Bank.

**Peter Cherecwich joined Northern Trust in 2007** and has served as Executive Vice President and President of Asset Servicing since 2017. Prior to that, he served as Executive Vice President and President of Global Fund Services from 2010 to 2017 and as COO of Corporate & Institutional Services from 2008 to 2014. From 2007 to 2008, he served as Head of Institutional Strategy & Product Development. Before joining Northern Trust, he served in several executive and operational roles at State Street Corporation.

**Steve Fradkin joined Northern Trust in 1985** and has served as Executive Vice President and President of Wealth Management since 2014. Prior to that, he was President of Corporate & Institutional Services from 2009-to 2014 and CFO from 2004 to 2009.

**Daniel Gamba joined Northern Trust in 2023** from BlackRock, where he was co-head of fundamental equities and a member of the firm’s Global Operating, Portfolio



Management Group Executive and Human Capital committees. During his 22-year tenure at BlackRock and Barclays (BGI), he led investment, distribution, and product teams. Previous leadership roles include Global Head of Active Equities Product Strategy; co-head of iShares US and head of Americas Institutional; and CEO of the Latin America & Caribbean business.

#### Exhibit 64: Northern Trust management team has ~20 years of experience at the bank

Northern Trust management team

Officer	Title	Previous Employer
Michael O'Grady	Chairman and Chief Executive Officer	Bank of America Merrill Lynch
Jason Tyler	Executive Vice President and Chief Financial Officer	Ariel Investments
Peter Cherecwich	President of Asset Servicing	State Street Bank
Steven Fradkin	President of Wealth Management	None
Daniel Gamba	President of Asset Management	BlackRock

Source: BofA Global Research, Company filings

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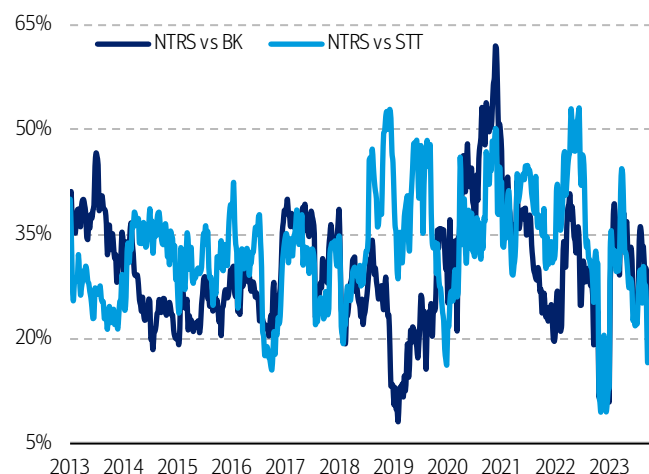
## Appendix

The appendix contains other charts not included in the main body of the report.

### Valuation

#### Exhibit 65: 24% vs BK (29% median), 23% vs STT (33% median)

NTRS vs. trust bank peer Forward P/E

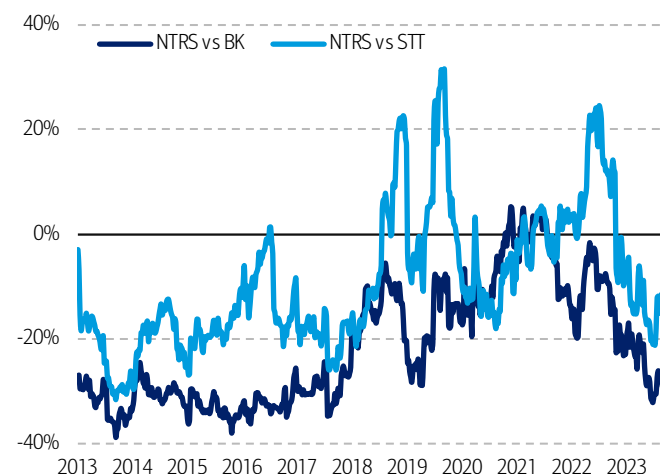


Source: BofA Global Research, Bloomberg

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#### Exhibit 66: -34% vs BK (-26% median), -19% vs STT (-13% median)

NTRS vs. trust bank peer P/TBV



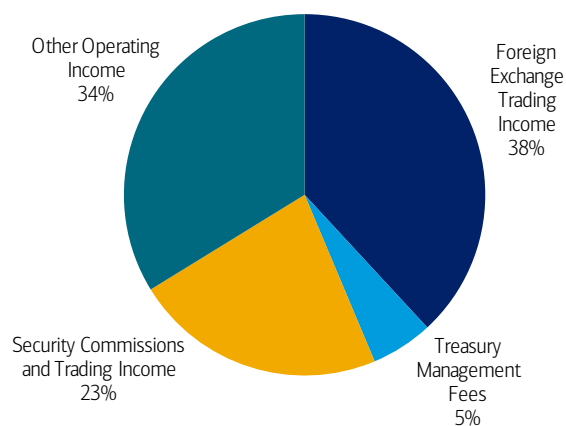
Source: BofA Global Research, Bloomberg

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## Revenue

### Exhibit 67: FX trading is driven by volatility and activity levels

Other Noninterest Income, LTM 2Q23 (\$405mn)



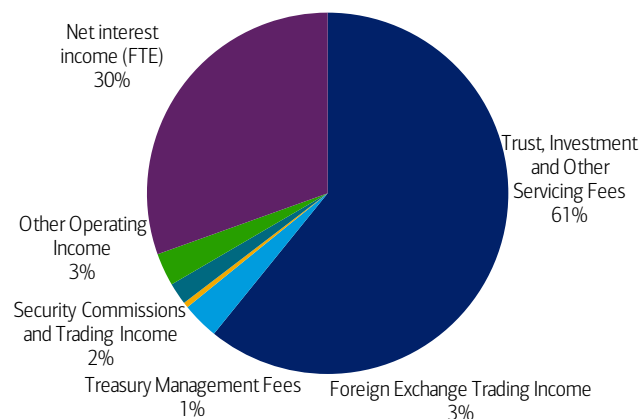
Source: BofA Global Research, Company filings

Note: Excludes Investment Security Gains (Losses), net (-\$207.1mn)  
LTM 2Q23

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### Exhibit 68: Trust, Investment and Other Servicing Fees are derived from core business activities

Revenue, LTM 2Q23 (\$7.04bn)



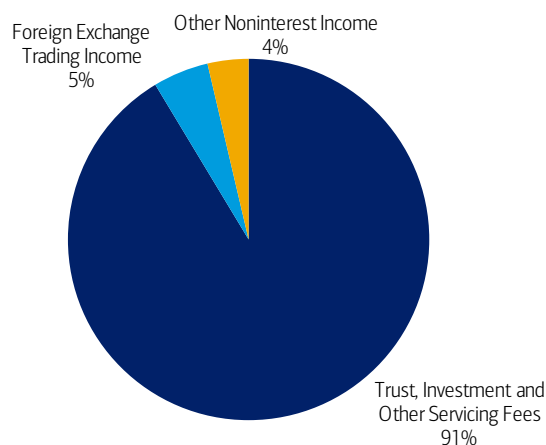
Source: BofA Global Research, Company filings

Note: Excludes Investment Security Gains (Losses), net (-\$207.1mn)  
LTM 2Q23

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### Exhibit 69: Trust, Investment and Other Servicing Fees is the majority

Total noninterest income, LTM 2Q23 (\$4.7bn)



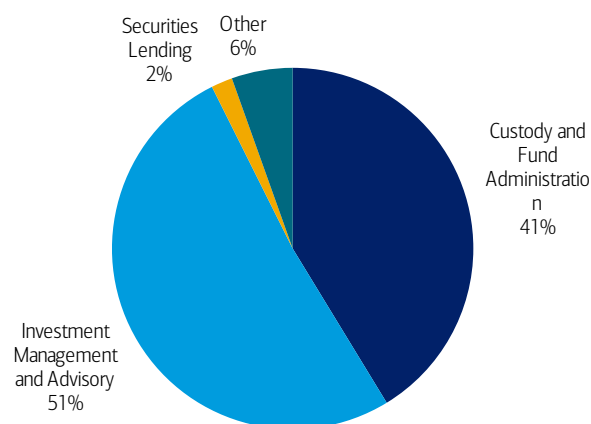
Source: BofA Global Research, Company filings

LTM 2Q23

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### Exhibit 70: Investment Management and Advisory reflect AUM

Trust, Investment and Other Servicing Fees, LTM 2Q23 (\$4.3bn)



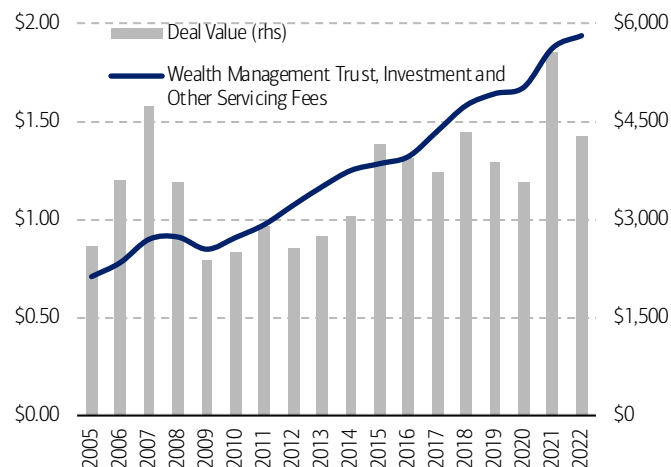
Source: BofA Global Research, Company filings

LTM 2Q23

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**Exhibit 71: M&A Deal Value and WM Fees correlation 0.63**

M&amp;A vs. Wealth Management Trust, Investment, and Other Servicing Fees

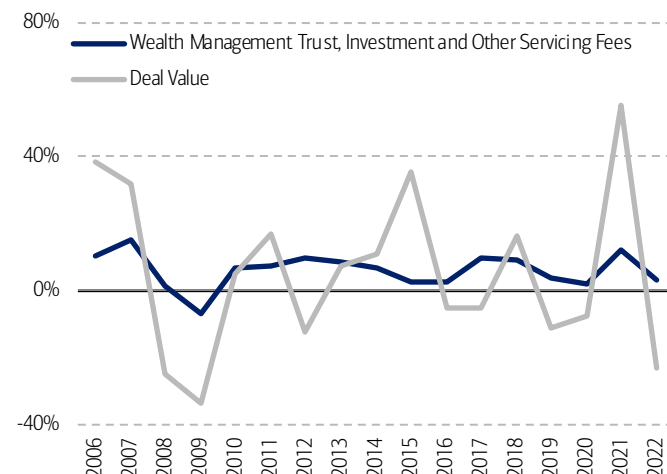


Source: BofA Global Research, Dealogic, Company filings  
\$bn

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**Exhibit 72: M&A Deal Value YoY changes more volatile than fees**

M&amp;A vs. Wealth Management Trust, Investment, and Other Servicing Fees

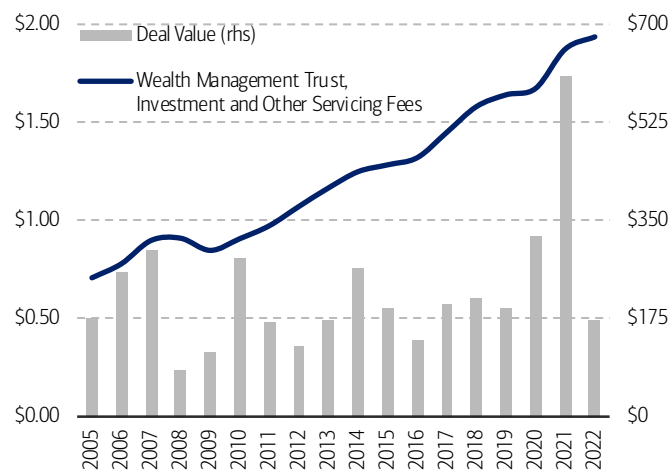


Source: BofA Global Research, Dealogic, Company filings

BofA GLOBAL RESEARCH

**Exhibit 73: ECM Deal Value and WM Fees correlation 0.41**

IPO vs. Wealth Management Trust, Investment, and Other Servicing Fees

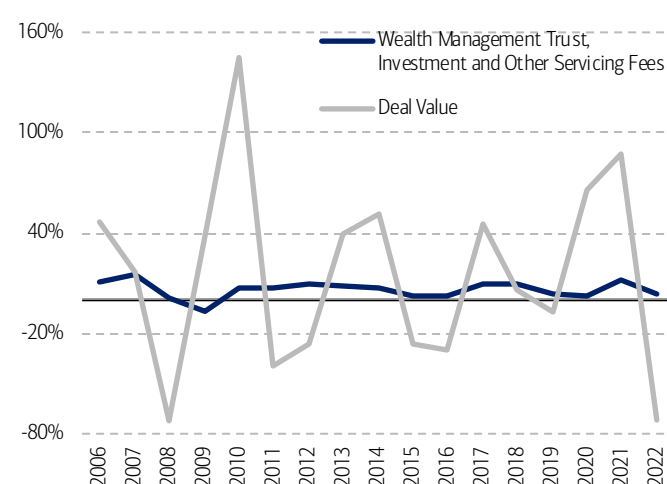


Source: BofA Global Research, Dealogic, Company filings  
\$bn

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**Exhibit 74: IPO market has severely dropped off but fees less volatile**

IPO vs. Wealth Management Trust, Investment, and Other Servicing Fees

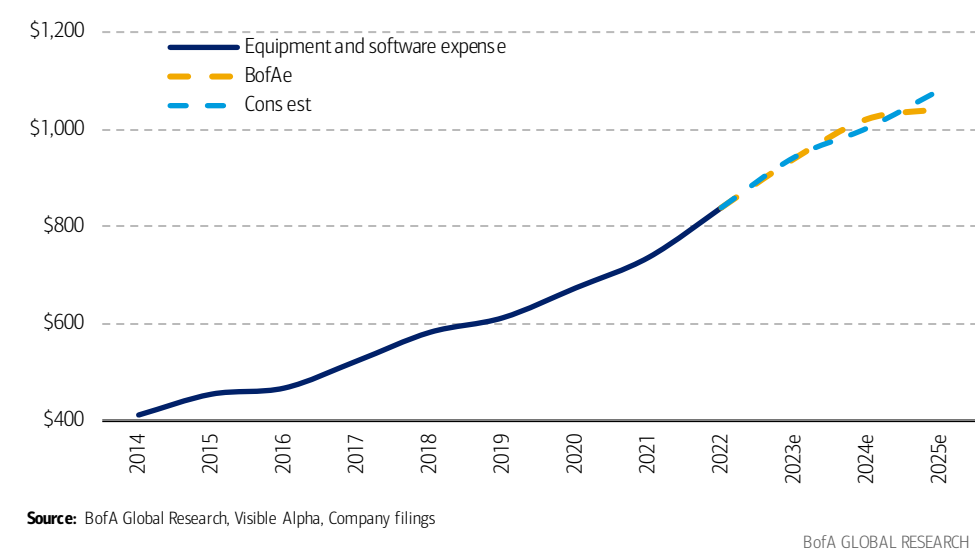


Source: BofA Global Research, Dealogic, Company filings

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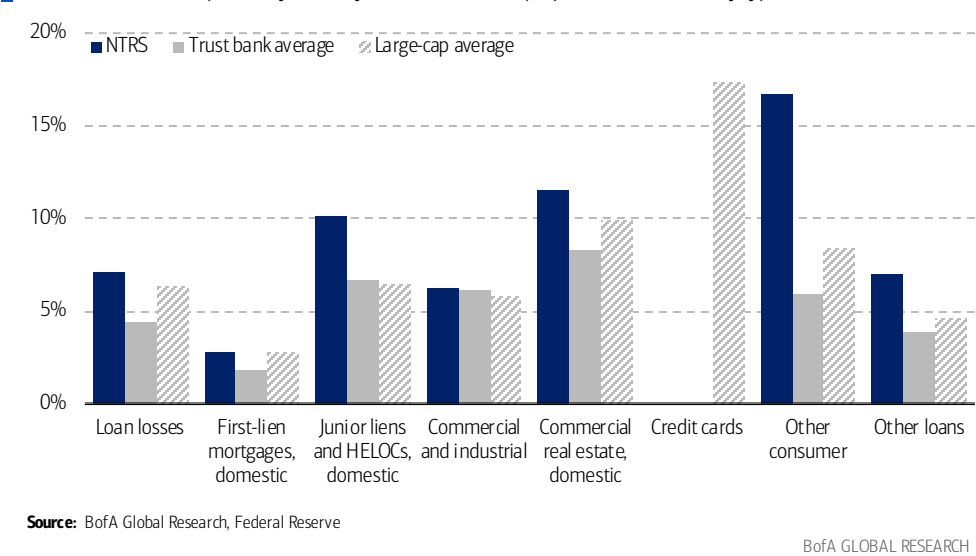
Expenses

**Exhibit 75: Northern Trust is continually investing in technological capabilities and security**  
Equipment and software expenses



Credit

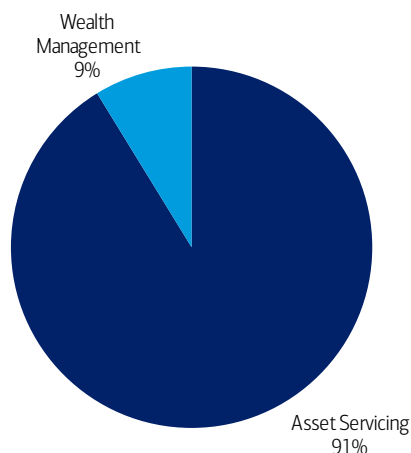
**Exhibit 76: Northern Trust total projected loan losses were \$3bn**  
2023 Stress Test: Supervisory Severely Adverse Scenario projected loan losses, by type of loan



## Assets Under Custody and Administration (AUC/A)

### Exhibit 77: Administration business primarily within Asset Servicing

AUC by reporting segment, as of 2Q23 (\$11.3tn)

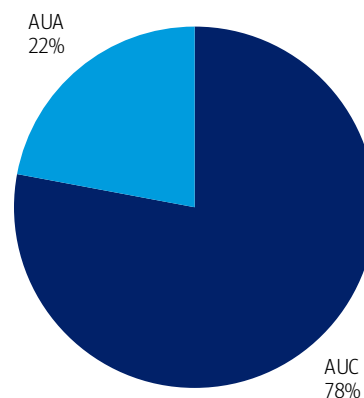


Source: BofA Global Research, Company filings  
As of 2Q23

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### Exhibit 78: Asset administration business not as large as custody

AUC vs. AUA, as of 2Q23 (\$14.5tn)

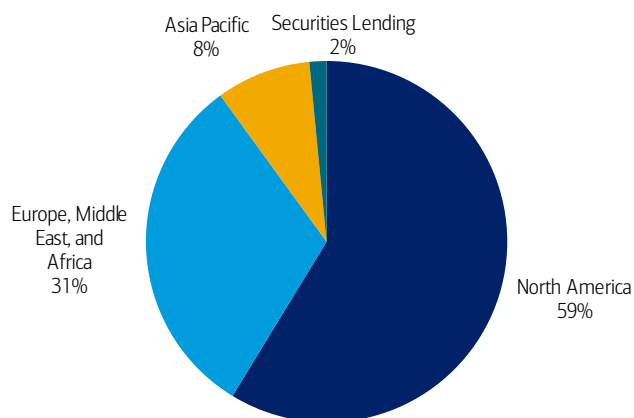


Source: BofA Global Research, Company filings  
As of 2Q23

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### Exhibit 79: North American assets dominant within Asset Servicing

Asset Servicing AUC, as of 2022 (\$9.7tn)

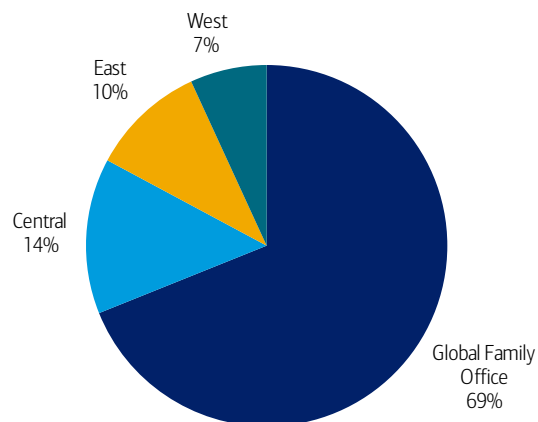


Source: BofA Global Research, Company filings  
As of 2022

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### Exhibit 80: NTRS has specialized expertise for family offices

Wealth Management AUC, as of 2022 (\$892bn)

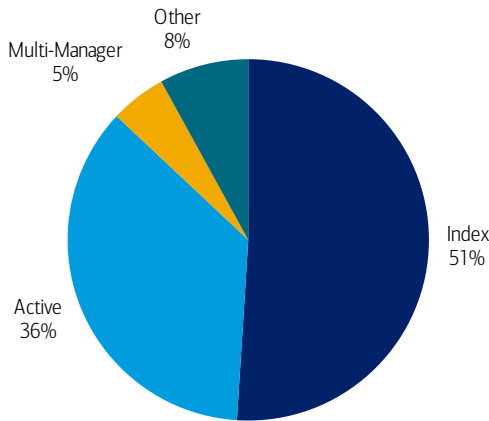


Source: BofA Global Research, Company filings  
As of 2022

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# Assets Under Management (AUM)

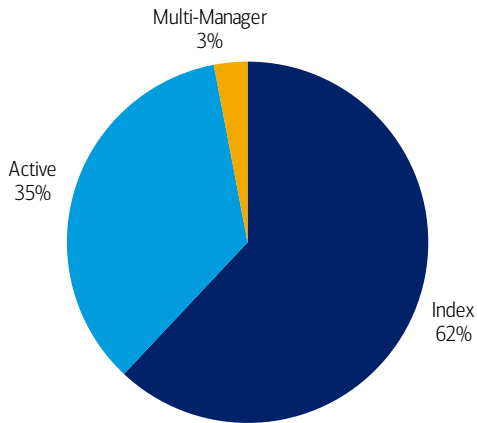
**Exhibit 81: Diversified across management styles**  
AUM by management style, as of FY22



Source: BofA Global Research, Company filings  
As of FY22

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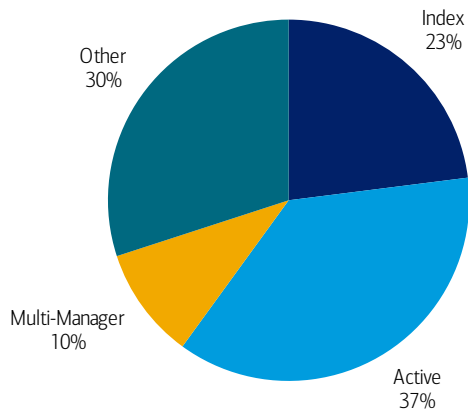
**Exhibit 82: Primarily weighted toward index**  
Asset Servicing AUM by management style, as of FY22 (\$898bn)



Source: BofA Global Research, Company filings  
As of FY22

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**Exhibit 83: Primarily weighted toward active**  
Wealth Management AUM by management style, as of FY22 (\$351bn)



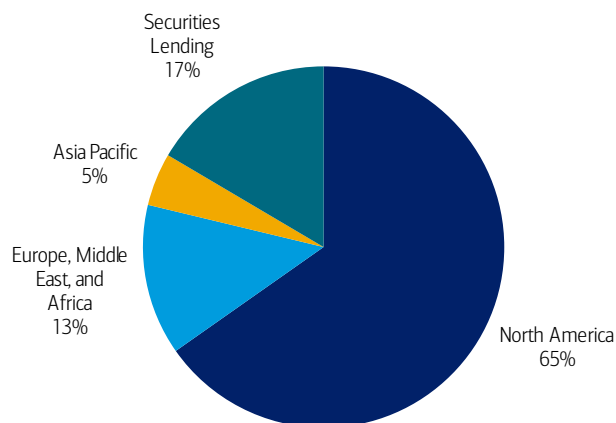
Source: BofA Global Research, Company filings  
As of FY22

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**Exhibit 84: Primarily weighted toward North America**

Asset Servicing AUM by geography, as of FY22 (\$898bn)

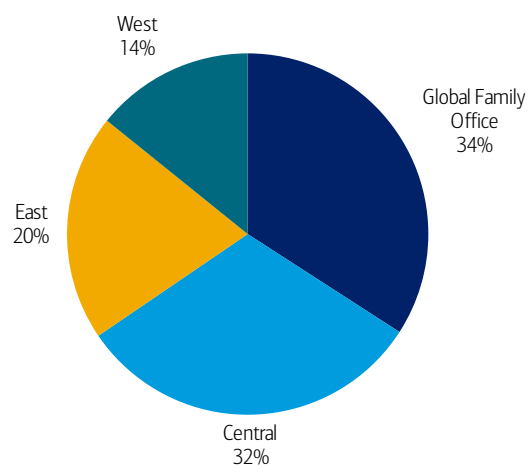


Source: BofA Global Research, Company filings  
As of FY22

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**Exhibit 85: Primarily weighted toward Global Family Office**

Wealth Management AUM by geography, as of FY22 (\$351bn)

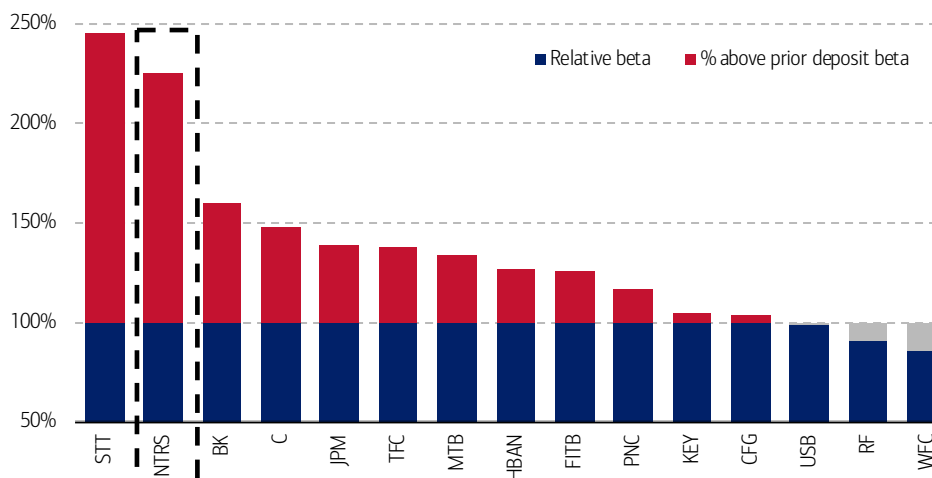


Source: BofA Global Research, Company filings  
As of FY22

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**Balance Sheet****Exhibit 86: Deposit beta has been a headwind to NIM reflecting NTRS' institutional client base**

Cumulative total deposit beta – 2Q23 vs 2Q19

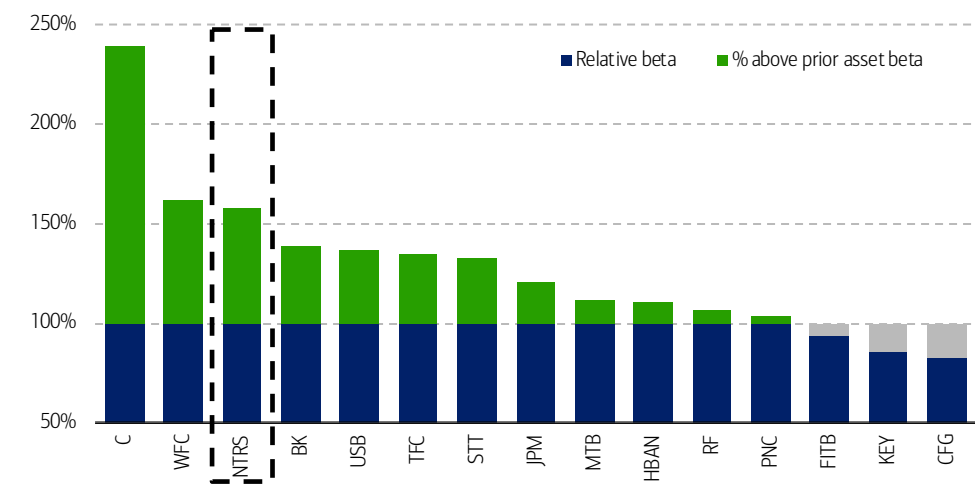


Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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**Exhibit 87: Many banks have already seen asset betas above last cycle**  
Interest earning asset beta – 2Q23 vs 2Q19t



Source: BofA Global Research, S&P Capital IQ Pro, Company filings

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## Price objective basis & risk

### Northern Trust Corporation (NTRS)

Our \$90 PO is based on applying a P/TBV multiple of 1.7x (50% weight) to our YE24e TBV and a 14.5x P/E (50% weight) multiple to our 2024e P/E. We view NTRS as well positioned given self-help factors, EPS resiliency, and favorable cyclical positioning. Risks to the downside are a selloff in equity/bond markets that would put downward pressure on fee growth, rising deposit costs that would put downward pressure on net interest income, management's inability to execute on efficiency/profitability goals. Risk to the upside driven stronger equity/bond markets, sooner than expected achievement of mgmt's profitability/strategic targets.

## Analyst Certification

I, Ebrahim H. Poonawala, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

### North America - Banks Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Citigroup Inc.	C	C US	Ebrahim H. Poonawala
	Cullen/Frost Bankers Inc	CFR	CFR US	Ebrahim H. Poonawala
	East West Bancorp, Incorporated	EWBC	EWBC US	Ebrahim H. Poonawala
	Fifth Third Bank	FITB	FITB US	Ebrahim H. Poonawala
	First Bancorp Puerto Rico	FBP	FBP US	Brandon Berman
	First Horizon Corporation	FHN	FHN US	Ebrahim H. Poonawala
	Goldman Sachs	GS	GS US	Ebrahim H. Poonawala
	JPMorgan Chase & Co.	JPM	JPM US	Ebrahim H. Poonawala
	KeyCorp	KEY	KEY US	Ebrahim H. Poonawala
	M&T Bank	MTB	MTB US	Ebrahim H. Poonawala
	Morgan Stanley	MS	MS US	Ebrahim H. Poonawala
	New York Community Bancorp	NYCB	NYCB US	Ebrahim H. Poonawala
	Northern Trust Corporation	NTRS	NTRS US	Ebrahim H. Poonawala
	Synovus Financial Corp.	SNV	SNV US	Ebrahim H. Poonawala
	The Bank of New York Mellon Corporation	BK	BK US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	TD	TD US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	YTD	TD CN	Ebrahim H. Poonawala
	U.S. Bancorp	USB	USB US	Ebrahim H. Poonawala
	Wells Fargo & Company	WFC	WFC US	Ebrahim H. Poonawala
	Western Alliance Bancorp	WAL	WAL US	Ebrahim H. Poonawala
<b>NEUTRAL</b>				
	Ally Financial	ALLY	ALLY US	Brandon Berman
	Associated Banc-Corp	ASB	ASB US	Brandon Berman
	Bank of Montreal	BMO	BMO US	Ebrahim H. Poonawala
	Bank of Montreal	YBMO	BMO CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	YBNS	BNS CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	BNS	BNS US	Ebrahim H. Poonawala
	Citizens Financial Group	CFG	CFG US	Ebrahim H. Poonawala
	Comerica Incorporated	CMA	CMA US	Ebrahim H. Poonawala
	Huntington Bancshares Inc.	HBAN	HBAN US	Ebrahim H. Poonawala
	Regions Financial	RF	RF US	Ebrahim H. Poonawala
	Royal Bank of Canada	RY	RY US	Ebrahim H. Poonawala
	Royal Bank of Canada	YRY	RY CN	Ebrahim H. Poonawala
	State Street Corporation	STT	STT US	Ebrahim H. Poonawala
	Truist Financial	TFC	TFC US	Ebrahim H. Poonawala
<b>UNDERPERFORM</b>				
	Bank of Hawaii Corp.	BOH	BOH US	Brandon Berman
	Canadian Imperial Bank of Commerce	CM	CM US	Ebrahim H. Poonawala
	Canadian Imperial Bank of Commerce	YCM	CM CN	Ebrahim H. Poonawala
	First Hawaiian Inc.	FHB	FHB US	Brandon Berman

## North America - Banks Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Prosperity Bancshares Inc.	PB	PB US	Ebrahim H. Poonawala
	Texas Capital Bancshares Inc.	TCBI	TCBI US	Brandon Berman
	The PNC Financial Services Group, Inc.	PNC	PNC US	Ebrahim H. Poonawala
	Zions Bancorp	ZION	ZION US	Ebrahim H. Poonawala

**iQmethod<sup>SM</sup> Measures Definitions****Business Performance**

Return On Capital Employed

Return On Equity

Operating Margin

Earnings Growth

Free Cash Flow

**Numerator**

NOPAT = (EBIT + Interest Income) × (1 – Tax Rate) + Goodwill Amortization

Net Income

Operating Profit

Expected 5 Year CAGR From Latest Actual

Cash Flow From Operations – Total Capex

**Denominator**

Total Assets – Current Liabilities + ST Debt + Accumulated Goodwill Amortization

Shareholders' Equity

Sales

N/A

N/A

**Quality of Earnings**

Cash Realization Ratio

Asset Replacement Ratio

Tax Rate

Net Debt-To-Equity Ratio

Interest Cover

**Numerator**

Cash Flow From Operations

Capex

Tax Charge

Net Debt = Total Debt – Cash &amp; Equivalents

EBIT

**Denominator**

Net Income

Depreciation

Pre-Tax Income

Total Equity

Interest Expense

**Valuation Toolkit**

Price / Earnings Ratio

Price / Book Value

Dividend Yield

Free Cash Flow Yield

Enterprise Value / Sales

**Numerator**

Current Share Price

Current Share Price

Annualised Declared Cash Dividend

Cash Flow From Operations – Total Capex

EV = Current Share Price × Current Shares + Minority Equity + Net Debt +

Other LT Liabilities

Enterprise Value

**Denominator**

Diluted Earnings Per Share (Basis As Specified)

Shareholders' Equity / Current Basic Shares

Current Share Price

Market Cap = Current Share Price × Current Basic Shares

Sales

Basic EBIT + Depreciation + Amortization

**iQmethod<sup>SM</sup>** is the set of BofA Global Research standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and valuations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology. Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

**iQdatabase<sup>®</sup>** is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Global Research.

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# Disclosures

## Important Disclosures

### Equity Investment Rating Distribution: Banks Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	98	50.78%	Buy	81	82.65%
Hold	47	24.35%	Hold	35	74.47%
Sell	48	24.87%	Sell	36	75.00%

### Equity Investment Rating Distribution: Global Group (as of 30 Sep 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	1869	53.48%	Buy	1046	55.97%
Hold	828	23.69%	Hold	461	55.68%
Sell	798	22.83%	Sell	370	46.37%

<sup>R1</sup> Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

**FUNDAMENTAL EQUITY OPINION KEY:** Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of both a stock's absolute total return potential as well as its attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). Our investment ratings are: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. An investment rating of 6 (No Rating) indicates that a stock is no longer trading on the basis of fundamentals. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster <sup>R2</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R2</sup> Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

**INCOME RATINGS**, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. **Coverage Cluster** is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Global Research report referencing the stock.

BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Northern Trust.

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The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Northern Trust Corp.

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Northern Trust Corp.

The issuer is or was, within the last 12 months, a non-securities business client of BofAS and/or one or more of its affiliates: Northern Trust Corp.

BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Northern Trust Corp.

BofAS or an affiliate expects to receive or intends to seek compensation for investment banking services from this issuer or an affiliate of the issuer within the next three months: Northern Trust Corp.

BofAS together with its affiliates beneficially owns one percent or more of the common stock of this issuer. If this report was issued on or after the 9th day of the month, it reflects the ownership position on the last day of the previous month. Reports issued before the 9th day of a month reflect the ownership position at the end of the second month preceding the date of the report: Northern Trust Corp.

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The issuer is or was, within the last 12 months, a securities business client (non-investment banking) of BofAS and/or one or more of its affiliates: Northern Trust Corp.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

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