Accessible version
BofA GLOBAL RESEARCH
BofA SECURITIES

Canadian Banks

1Q24 Preview: Micro vs. Macro

Price Objective Change

14 February 2024

Equity
Canada
Banks-Multinational/Universal

Ebrahim H. Poonawala
Research Analyst
BofAS
+1 646 743 0490
ebrahim.poonawala@bofa.com

Gabriel Angelini
Research Analyst
BofAS
+1 646 855 3081
gabriel.angelini@bofa.com

Isiah Austin
Research Analyst
BofAS
+1 646 855 0472
isiah.austin@bofa.com

Brandon Berman
Research Analyst
BofAS
+1 646 855 3933
brandon.berman@bofa.com

Stagflation risks persist

We remain concerned about the risks posed by higher for longer interest rates to the growth and credit quality outlooks for the banks. The 5yr govt bond yield – key benchmark for mortgage pricing (~45% of loans), is above the levels it was trading at in late November, when banks reported 4Q results (~300bp above 2019-2021 avg). While this is unlikely to alter mgmt. FY24 outlooks relative to prior guidance, higher rates could serve as an overhang on stock valuations as the Street discounts potential downside EPS risks. The problem could get worse if the job market deteriorates. BofA Economics team forecasts unemployment rate: 6.5% by YE24 vs. 5.8% currently; 5.7% pre-pandemic.

1Q24 EPS growth: -12% YoY

1Q24 results and forward EPS revisions should benefit from better-than-expected net interest margin expansion. Credit costs (PCLs) to hold within mgmt. guidance, seen as peaking in mid-to-late 2024. US commercial real estate (CRE) exposures (Exhibit 35) likely to put upward pressure on credit losses. Investors will be watching for whether mgmt. teams end the discount on DRIPs (RY, BMO, CM, BNS). Given heightened macro uncertainties, clear messaging on pre-tax pre-provision (PTPP), capital management will likely be rewarded. Turn to page 2 for discussion on EPS revisions; See exhibits 3-7 for recent mgmt. commentary on operating trends.

Investors not positioned for shocks

The TSX bank index has given up ~50% of its gains clocked since late November (peaked 01/08) as the market continues to recalibrate the outlook for interest rates. Our recent investor conversations indicate general comfort around EPS outlooks and capital levels, keeping investors in their positions. Not surprisingly, we sense no urgency among Canadian or foreign investors to add exposure to the group. Stocks trading at 10.4x 2024e P/E vs. 10.8x pre-pandemic avg. and 1.4 YE24e P/B (vs. 2024 ROE forecast of 12%) vs. 1.7x P/B (14.6%). Consensus 2024e EPS -5% since (10/31). While growth outlook risk somewhat discounted, worse than expected credit losses are not.

RY/BMO still favored, bar lowest for BNS

RY: Focus on updated PTPP outlook given upcoming close of HSBC Canada (late March). Street in need of visibility on timing of deal driven expense savings given the "close and convert" of tech stack on day one post-close. **BMO**: NII resiliency (particularly in the US), and deal synergies from Bank of the West needed to keep investors interested given an otherwise tough revenue growth backdrop. **BNS**: Another quarter of margin expansion while investors await lift to EPS/NIM from BoC rate-cuts will likely be viewed as a positive. **TD:** An update on US regulatory issues (potential settlement with the DOJ) being watched, mgmt. continues to execute on buybacks. We revise TD PO to $86 from $88 on EPS revisions tied to outlook for higher expense growth. **CM**: US CRE losses and outlook beyond office CRE in focus. Margin expansion, capital build, expense discipline should be positives.

Relevant research: Canadian Banks: Earnings & Beyond: Declining rates should increase investment appeal 18 December 2023

Exhibit 1: 1Q24 earnings calendar
Earnings start on 2/27 with BNS reporting

Ticker	Date	Earnings call
BNS	2/27	7:15am ET
BMO	2/27	8:15am ET
RY	2/28	8:00am ET
CM	2/29	7:30am ET
TD	2/29	8:30am ET

Source: BofA Global Research, company reports
BofA GLOBAL RESEARCH

Exhibit 2: 1Q24 EPS estimates
We are 3% below consensus

Ticker	Rating	PO	BofA 1Q24e EPS	Consensus 1Q24e EPS	Dividend Yield
BMO	Buy	$145	$3.01	$3.09	4.9%
BNS	Neutral	$67	$1.61	$1.62	6.7%
CM	Neutral	$66	$1.64	$1.69	6.0%
RY	Buy	$146	$2.71	$2.84	4.3%
TD	Neutral	$86	$1.85	$1.95	5.2%

Source: BofA Global Research, Bloomberg
BofA GLOBAL RESEARCH

PCL: Provision for credit losses

CET1: Common equity tier 1 capital

Royal (RY): Deal synergies in focus

We nudge our 1Q24e to $2.71 (from $2.67) or -13% YoY; FY24e to $11.22 (from $11.24) or -1%. Our forecast assumes HSBC Canada close end of March 2024 (systems conversion over the long weekend). We note that the capital markets segment had a net tax benefit during FY23 which we forecast will swing to a 15% tax charge for FY24, optically serving as a drag to net income and EPS growth. Net interest margin (NIM) expansion should continue with the full quarter impact from the City National bond book restructuring driving segment margin higher. We note that City National NIM expansion of +29bp (to 2.78%) QoQ included only 1 quarter benefit of the bond restructuring implying potential for upside vs our forecast for wealth NIM +25bp 1Q24/4Q23. We also expect the NIM for Canadian P&C segment to expand on back book repricing and more tempered deposit pricing competition.

Our FY24 expense forecast of $32bn includes ~$470mn of net HSBC related costs (not including merger charges). We see potential for expenses to track better than our forecast as mgmt's guidance for low to mid-single digits growth on a core expense base of $30bn would imply FY24 expenses in the $31bn +/- range. Visibility on expense outlook with HSBC's additions and timing for achieving 100% of the cost savings will be important in driving EPS revisions post 1Q results. Recall, at deal announcement mgmt. outlined expectations for realizing 20% of the $740mn in annualized savings in year 1 and 95% in year 2 (our estimates assume 50%/100%). However, since then mgmt. has highlighted the "close and convert" on day one, suggesting to us (and investors) that the savings could accrue at a much faster timeline. Royal should also begin to realize the benefit of restructuring actions taken in 2024, leading to ~$200mn reduction in Canadian banking run-rate expenses.

RBC likely needs visibility on organic capital generation following the close of HSBC Canada before ending the discount on the Dividend Reinvestment Plan (DRIP). Based on our expectation for HSBC Canada to decrease capital by 230-250bp on close, we anticipate that Royal should remain comfortably above regulatory minimums with a CET1 capital ratio of 12.5%+ vs. 11.5% regulatory minimum and 14.50% as of YE23. We assume that the DRIP issuance ends in 2Q24. We assume buybacks for FY25/26 mainly to account for the significant capital generation. If history is any guide we anticipate that RY could be active on the M&A front (acquired UK based wealth manager Brewin Dolphin in 2022, followed by HSBC Canada).

We forecast PCLS of 39bp of average loans FY24 (36bp 1Q24, +3bp QoQ). While Canadian consumers have so far absorbed the impact of higher interest rates and a rising unemployment rate (UE rate), we note that the unemployment rate is now at its highest level (5.77% at 12/31) since early 2019 (excluding the pandemic). Mgmt. guide calls for 30-35bp of provisions on impaired loans for FY24, implying a sizeable increase from 4Q23 run-rate (25bp). We forecast 32bp tied to impaired PCLs for FY24 (vs. 22bp/27bp FY23/19) and 7bp tied to performing PCLs (vs. 8bp/3bp).

Exhibit 3: RY Tear Sheet

Management outlook / commentary

Royal Bank of Canada	Notes
Revenue	
Net interest margin	Canadian banking: NIM has not peaked. CNB: Expect NIM to continue moving higher because of 4Q23 B/S actions. RBC Conference: Still looking for NIM expansion despite continued deposit repricing.
Provisions/Credit quality	Higher interest rates and unemployment are now the primary drivers of credit outcomes. Expect impaired PCLs 30-35bp FY24, with PCLs peaking late in 2024 or early in 2025.
Expenses	All bank core expense growth of the low-to-mid single digits (ex. HSBC Canada) FY24. Canadian banking: +1-2% operating leverage FY24. Anticipate that 2023 restructuring will take ~$200mn out of Canadian banking expense run rate.
Tax Rate	All-bank tax rate of 19-21%
Operating leverage	Expect +1-2% operating leverage in Canadian banking.
Loans	High rates are preventing projects from moving forward, muting loan growth.
Deposits	Continued but slow mix shift from NIB to IB deposits. RBC Conference: Stiffer competition for deposits.
Capital	Expect that CET1 will remain comfortably above the 11.5% minimum following the close of the HSBC Canada acquisition.
Buybacks	Will revisit the DRIP & the reintroduction of share buybacks beginning in the second half of 2024.
M&A	Remain confident in HSBC expense synergies of ~$740mn, with the majority in 2025.

Source: BofA Global Research, Bloomberg, Company filings

BofA GLOBAL RESEARCH

TD Bank (TD): Margin, US regulatory issues in focus

We revise 1Q24e to $1.85 (from $1.92) or -17% YoY and FY24e to $7.18 (from $7.45) or -9% YoY to reflect impact from the adoption of IFRS-17, updated contribution from Schwab and expense growth tied to BSA/AML. We forecast NIM stability at the all-bank level (1.76%, +2bp QoQ), driven by modest expansion in Canadian P&C (2.80%, +2bp QoQ), and US Retail (3.09%, +2bp QoQ) as we expect that margin pressures (continued deposit mix shift, repricing) to be mitigated by loan growth, back book repricing. Our forecast assumes mortgage growth of +2%/+10% 1Q24e/FY24e as TD looks to gain market share and execute on mgmt's strategy outlined at last year's investor day.

Street will be watching for any updates on the ongoing DOJ investigation in TD's BSA/AML practices in the US bank. While unlikely we get much visibility from management on the remediation plan (how long it will take), investors expect that similar to peers over the years, TD could announce a financial settlement with the DOJ, US banking regulators as it looks to address regulatory concerns. We forecast FY24e expenses of $28bn, +7% YoY because of higher corporate expenses ($770mn quarterly average FY24) driven by compliance related investments considering the ongoing BSA/AML investigation by US regulators.

Unique among peers, TD remains active in executing its buyback program (20mn shares as of 1/31), implying the bank has ~50mn shares remaining of its original 90mn share authorization (38mn repurchased 4Q23). We forecast continued buybacks (20mn/qtr FY24e average), implying 100%+ payout FY24e

Exhibit 4: TD Tear Sheet

Management outlook / commentary

Toronto-Dominion Bank	Notes
Revenue	Expect that adjusted net losses in the corporate segment will increase to CAD$200-250mn, driven by compliance investments. 2Q/3Q23 wealth fee income more reflective of a go forward run-rate.
Net interest margin	Believe that all-bank NIM will remain stable in 2024. Canada / US segment NIM also expected to remain relatively stable. 1Q24 US NIM to be driven by same margin dynamics that played out in 4Q23.
Provisions/Credit quality	Normalized PCL range for TD is 40-50bp. Expect FY24 PCLs of 40-50bp.
Expenses	Fourth quarter expenses included a CAD$363mn restructuring charge. Expect a similar amount in 1H24. Anticipate that adjusted expense growth will come in the mid-single digits for 2024. Will recognize an FDIC special assessment charge of ~US$300mn in 1Q24.
Efficiency	Believe that the efficiency ratio will improve over time.
Tax Rate	Anticipate US Retail tax rate higher than 20% for US in 1Q24.
Operating leverage	Target positive operating leverage over the medium-term.
EPS	Will be challenging for the bank to meet the medium-term EPS growth target of +7-10%.
Mortgages	TD focused on growing mortgages after branch closure during the pandemic led to underperformance in this product.
Capital	Expect that the implementation of FRTB in the first quarter will have a -15bp impact on capital.
Buybacks	Still plan to use 90mn share buyback authorization within 1 year.

Source: BofA Global Research, Bloomberg, Company filings

BofA GLOBAL RESEARCH

BMO (BMO): EPS defensibility amid slowing growth

We revise 1Q24e to $3.01 (from $3.16) or -2% YoY and FY24e to $11.90 (from $12.18) or +1% YoY. Mgmt. has set expectations for a weak 1Q driven by margin pressures, impact from the sale of the RV loan portfolio, seasonal expenses – all of which combined are expected to drive negative operating leverage on a YoY basis. Mgmt. has guided for a return to positive operating leverage starting 2Q24. On the $7.2bn in RV loan sale, we note that these have been securitized and added back on the balance sheet as investment securities (~$6.4bn). Net impact should be lower yield/net interest income, but accretive to CET1 capital (mid-teens). Investment banking activity seems relatively muted on YoY basis per Dealogic data.

We forecast the core net interest margin to dip during 1Q24 before rebounding modestly later in the year. The dynamic of deposit pricing pressures in the US combined with moderating loan growth could potentially have an outsized impact to BMO's near term NIM/EPS outlooks owing to its much larger US footprint (contributes ~45% to earnings). Mgmt. has outlined expectations for the core NIM to end 2024 within 5bp +/- relative to 4Q23 levels.

We believe that it will be important for investors to gain comfort that the expense synergies from Bank of the West (BOTW; $800mn by early 2Q24) combined with savings tied to restructuring actions taken last year can mitigate revenue headwinds due to unforeseen margin pressures and weaker loan growth (guide for consolidated loan growth in the mid-single digits range for FY24). We forecast FY24 expense growth of 3.5% YoY.

We expect BMO to operate at a 12.5%+ CET1 capital ratio and assume that the discount on the DRIP will be terminated by 2Q24. 1Q24 likely to see hit to the CET1 ratio from adoption of IFRS-17 accounting standards (< 5bp negative impact), mitigated by the sale of the RV portfolio (mid-teens basis points boost). While management has previously suggested that future regulatory actions (next DSB decision June 2024) could influence the timing of end to the DRIP, we note that our forecast suggests BMO would remain compliant with regulatory minimums despite ending the discount on the DRIP in the second quarter (3Q24e CET1 12.9%, vs 11.5% regulatory minimum).

Exhibit 5: BMO Tear Sheet

Management outlook / commentary

Bank of Montreal	Notes
Revenue	Remain confident in BOTW revenue synergies of $450mn-$550mn, delayed one or two quarters vs initial expectation.
Net interest margin	Anticipate that NIM will be relatively stable as the benefit of reinvestment of higher rates offsets continued deposit repricing.
Provisions/Credit quality	Given outlook for higher for longer rates, expect PCLs to run in the low-30s. RBC Conference: Expect peak PCLs will come sometime this year.
Expenses	Expect BOTW expense savings will largely be in the run-rate by 2Q24. $220mn of expense savings realized FY23, expect an additional $550mn FY24. Believe that BOTW integration costs will now total $1.9bn. Confident in ability to start delivering positive operating leverage in the second quarter (YoY basis). FDIC special assessment: $300mn US.
EPS	Reiterate 7%+ EPS growth target.
Loans	Believe that Canadian loan growth will continue to moderate, and that US loan growth will gradually improve after lagging Canada in 2023. Combined, anticipate loan growth of low-to-mid single digits.
Deposits	Believe that deposits will grow at a similar rate to loans, low-to-mid single digits.
Capital	Expect the combined impact of regulatory changes in the first quarter and FDIC charge will be -25bp to CET1 capital. Would like to run the bank with a 50bp+ buffer to the regulatory minimum.
M&A	Now expect $800mn in run-rate expense synergies from BOTW acquisition.

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Scotia (BNS): Low bar, potential for upside surprise

We revise 1Q24e to $1.61 (from $1.55) or -13% YoY, FY24e to $6.43 (from $6.52) or -2% YoY. The combination of relatively low investor expectations and a net interest margin expansion driven upside surprise could drive a positive stock reaction.

Our forecast assumes that Canadian NIM expansion remains robust (forecast +8bp 1Q24 vs 4Q23) as Scotia continues to see the benefit from business mix shifts (reducing mortgage growth, focus on core deposits) that drove 4Q23 outperformance (+12bp QoQ). The potential for continued NIM expansion even before we get to Fed rate cuts a significant positive, especially given that Scotia is widely viewed as rate-cut beneficiary. BoC rate-cuts should reduce the drag stemming from the corporate segment where we forecast net loss to reduce to -$1.2bn/-$0.9bn/-$0.5bn for FY24/25/26 vs. -$1.4 reported for FY23.

While we expect that Scotia will continue to see a moderation in loan growth at least through 1H24 (expect residential mortgage balances to decline), we currently forecast Canadian segment loan-to-deposit (L/D) ratio to decline to 118% by 4Q24 vs. 126% at YE23 (bringing Scotia closer to peers), opening the door to a rebound in loan growth during 2H24.

Mgmt. guidance for a -75bp impact to capital 1Q24 (40bp floor factor, 35bp regulatory changes) leads us to believe that the bank may maintain its DRIP through the balance of 2024. While the combination of earnings + DRIP would put Scotia comfortably above the regulatory minimum (forecast 13% YE24e), we note that Scotia will again be impacted by the floor factor in each of 1Q25/26 (~40bp in each year). This leads us to believe that management will be careful in removing the DRIP discount until it has improved visibility on future regulatory decisions (next OSFI DSB decision in June) and macro-economic outlook. A 12.5%+ CET1 target would imply that Scotia would continue to operate with a 50bp+ buffer to the regulatory minimum CET1 even after a 40bp hit to capital in 1Q25 and again in 1Q26.

Exhibit 6: BNS Tear Sheet
Management outlook / commentary

Bank of Nova Scotia	Notes
Revenue	Losses in the other segment are expected to remain elevated, as funding costs are expected to remain at current levels for most of 2024. Other will see improvement as rates decline. Fee income is expected to grow modestly. Global Wealth Management expects to deliver revenue growth FY24. Capital markets growth will be led by FICC. Other segment revenue will be better 1Q24 vs 4Q23.
Net interest margin	Expect strong NII growth FY24. Repricing benefits will continue to support NIM expansion. Expect decent margin expansion from where they finished in 4Q23.
Provisions/Credit quality	Full-year provisions in the range of 45-55bp. Do not expect to release provisions.
Expenses	1Q24 expenses could be elevated due to the eligible to retire costs.
Operating leverage	Expect to generate positive operating leverage. Expense growth of the low-to-mid single digits FY24. International banking will continue to generate positive operating leverage.
EPS	5-7% EPS CAGR 2025.
Loans	Moderate from 2023 levels.
Mortgages	Expect mortgage growth could pick up again in the back half of the year.
Deposits	Moderate from 2023 levels, but do not read as "significantly lower" vs 2023.
LatAm	Revenues in international banking are expected to benefit from loan growth and net interest margin expansion. Expenses are expected to grow at a lower rate than revenue reflecting expense saving initiatives. Earnings will be impacted by higher PCL and higher tax rate.
Capital	Expect CET1 to remain in the range of 12.5%+. 1Q24 will see a -75bp impact from FRTB/CVA implementation.

Source: BofA Global Research, Bloomberg, Company filings

BofA GLOBAL RESEARCH

CIBC (CM): operating outlook, CRE, capital build in focus

We revise 1Q24e EPS to $1.64 (from $1.80) or -16% YoY and FY24e EPS to $6.60 (from $6.61) or -2%. Among the big five banks, we see CM as having the clearest outlook on near term PTPP driven by expectations for a stable-to-expanding net interest margin and disciplined expense management. Loan growth moderating and likely to weigh on topline growth. Beyond PTPP trends, investors will be laser focused on an update on credit trends within the US CRE book ($18.5bn or 4% of total consolidated loans). In particular, mgmt. has been building loan loss reserves against its office CRE portfolio ($4bn in loans), and we expect reserve build and loss recognition to continue (NCOs 2.70% of avg. loans in 4Q23 vs. <1% 3Q23). Unlikely this will change prior PCL guidance for FY24 (impaired provision guide of mid-30s). Additionally, we anticipate some scrutiny of the rest of the US CRE book given heightened concerns tied to the risk of CRE issues spreading beyond office into other CRE sub-sectors.

We expect net interest margin to be a positive story for the bank (forecast NIM 1.44% 1Q24e, flat QoQ) as moderating mortgage growth (lower spread) and stabilizing deposit pricing competition combined with back book repricing should drive improved NIM/NII in the Canadian retail segment. We increase our expectation for FY24e NII ($13.4bn vs $12.8bn previously) as continued outlook for margin expansion 2H24 off a higher 1H24 base should support stronger NII growth.

Capital build also a positive story with Commerce unique among peers in expecting a net benefit from 1Q24 regulatory changes (no floor factor impact in the foreseeable future) and consequently we expect CET1 12.7% 1Q24e. As a result, we would not be surprised if Commerce terminates the discount on the DRIP earlier than peers. We forecast that the bank would be able to organically grow capital +10bp/qtr 2Q24-4Q24e.

Exhibit 7: CM Tear Sheet
Management outlook / commentary

CIBC	Notes
Revenue	Expect PTPP momentum to continue in Canadian P&C. Remain focused on prudence, profitable growth in US Commercial Banking and Wealth. Believe that loss in the corporate/other segment will moderate to the range of -$50mn to -$100mn.
Net interest margin	Margin improvement likely weighted toward the back half of the year.
Provisions/Credit quality	Anticipate FY24 PCLs in the mid-30s, higher than previous range of 25-30bp. Backing out US office, would expect PCLs in the low-30s. Will see losses earlier than US peers within the office portfolio.
Expenses	Can take out 1-2% of expenses per year. Expect to generate positive operating leverage on a go-forward basis. Managing to the minus side of mid-single digits expense growth FY24. Ideally would be around 4-5% expense growth to continue driving investments.
Operating leverage	Expect to deliver positive operating leverage in 2024.
Loans	Mid single digit loan growth in the commercial space; mid to high single digit loan growth in the US. Expect US growth will be stronger than Canada in 2024.
Mortgages	Mortgage clients are taking action to reduce negative amortization, from $50bn in 3Q23 to $43bn in 4Q23. Expect client payments will increase between $300-700/month.
Capital	Will start the year above 12.5% CET1 after net benefit from IRB, FRTB. Do not believe they will be impacted by the output floor in the near future. Will consider ending the DRIP when they have visibility on the bank's ability to organically stay above 12.5% CET1.

Source: BofA Global Research, Bloomberg, Company filings

BofA GLOBAL RESEARCH

1Q24 Preview: Operating outlook

BofA 4Q23e EPS forecast: Our EPS forecast implies -12% in median YoY decrease for the big five banks for 4Q23 (vs. -8% reported for 4Q23).

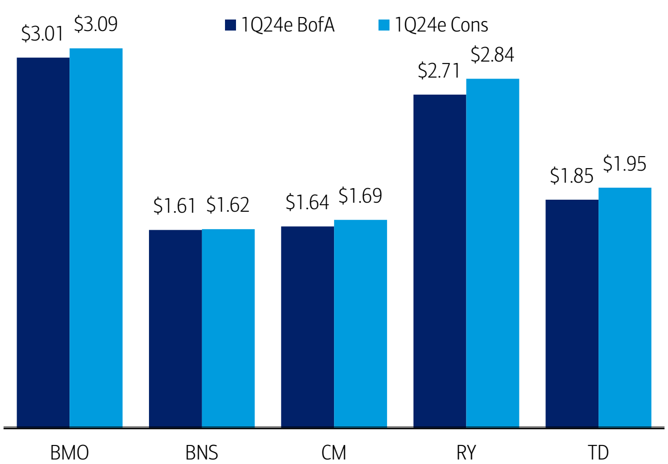
Exhibit 8: Our 1Q24 estimates decreased 3% on avg.
BofA EPS estimate revisions

	1Q24e			2024e			2025e			2026e		
	New	Old	% Chg.	New	Old	% Chg.	New	Old	% Chg.	New	Old	% Chg.
BMO	$3.01	$3.16	-4.7%	$11.90	$12.18	-2.3%	$13.00	$13.46	-3.4%	$13.75	$14.11	-2.5%
BNS	$1.61	$1.55	3.7%	$6.43	$6.52	-1.3%	$7.32	$7.32	-0.1%	$7.78	$7.77	0.1%
CM	$1.64	$1.80	-9.0%	$6.60	$6.61	-0.1%	$7.18	$7.12	0.9%	$7.50	$7.49	0.0%
RY	$2.71	$2.67	1.5%	$11.22	$11.24	-0.2%	$12.68	$12.68	0.0%	$13.60	$13.60	0.0%
TD	$1.85	$1.92	-3.4%	$7.18	$7.45	-3.6%	$8.20	$8.32	-1.4%	$9.19	$8.44	8.9%
Median			-3.4%			-1.3%			-0.1%			0.0%

Source: BofA Global Research

BofA GLOBAL RESEARCH

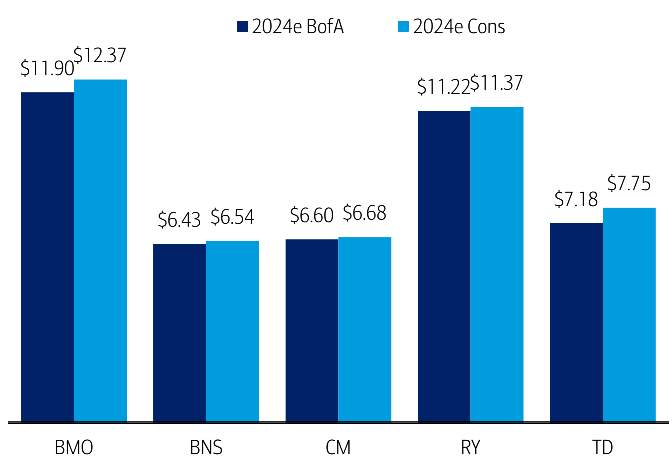
Exhibit 9: We are 3% below consensus in 1Q24
BofA vs. Cons 4Q23 EPS Estimates



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

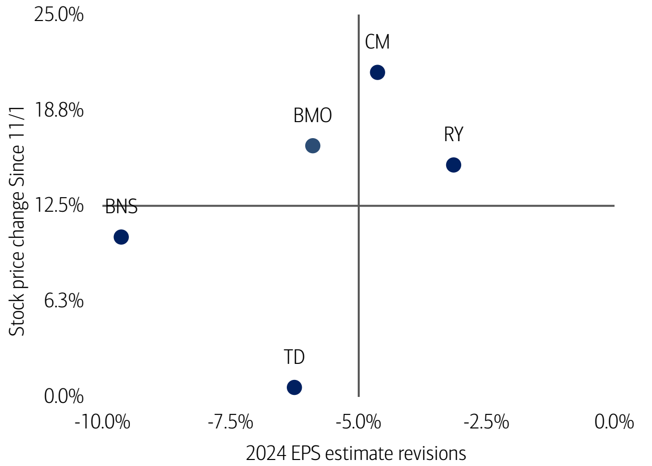
Exhibit 10: We are 3% below consensus for FY24
BofA vs. Cons 2024 EPS Estimates



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

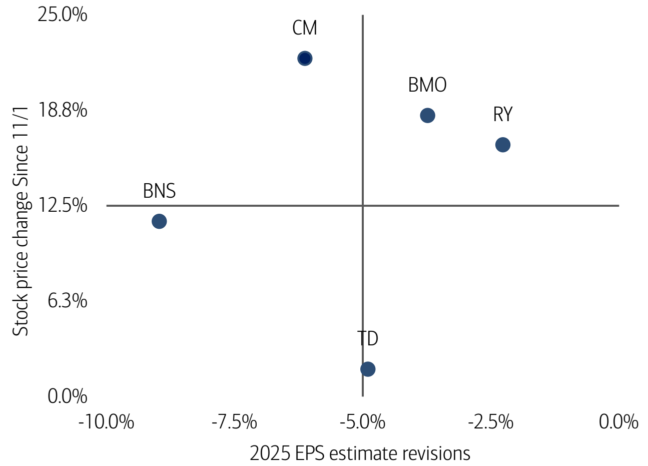
Exhibit 11: RY, CM have outperformed on better than avg. 24 revisions
Price performance since 11/1 vs 24e EPS revisions



Source: BofA Global Research, Bloomberg, Visible Alpha

BofA GLOBAL RESEARCH

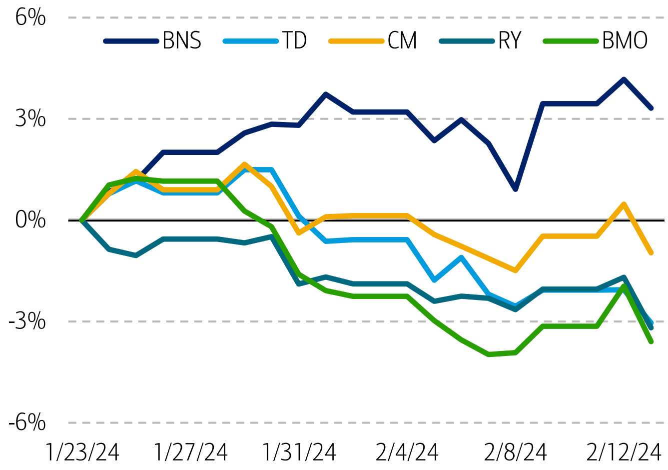
Exhibit 12: ...but CM o/p comes despite worse than avg. 25e revisions
Price performance since 11/1 vs 25e EPS revisions



Source: BofA Global Research, Bloomberg, Visible Alpha

BofA GLOBAL RESEARCH

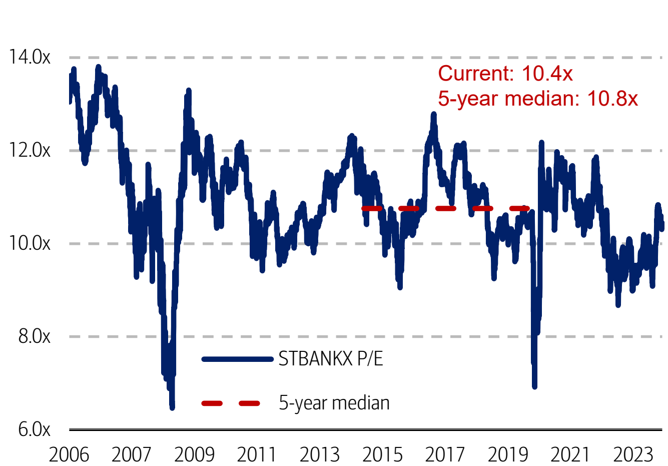
Exhibit 13: Scotia has outperformed since the last BOC meeting
Price performance, indexed to 0% at 1/23/24.



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 14: Banks are trading at 10.4x fwd. P/E vs. 10.8x 5yr median
Historical and current forward P/E



Source: BofA Global Research, Bloomberg

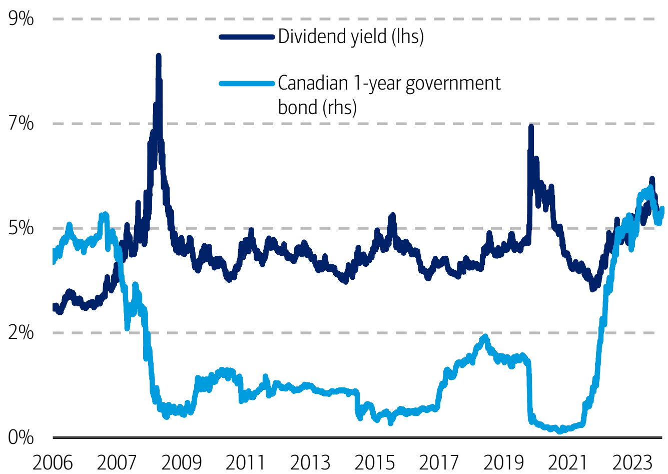
BofA GLOBAL RESEARCH

Exhibit 15: Banks are trading at 1.4x P/B, vs. 1.7x 5yr median
Historical and current P/B

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

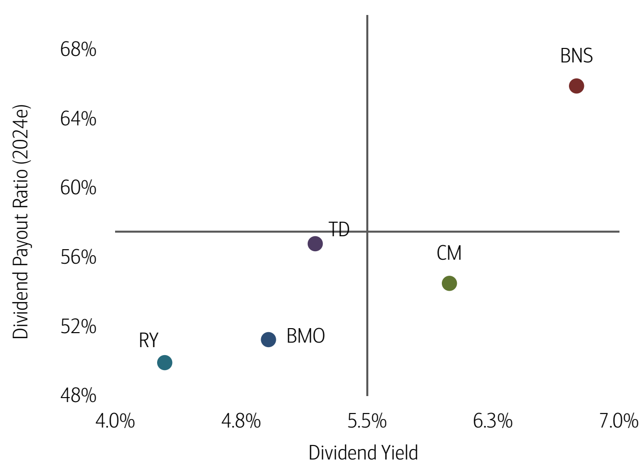
Exhibit 16: Risk-free Canadian bond rates have caught up to div. yields
Canadian Banks dividend yield vs. CAD 1yr government bond



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

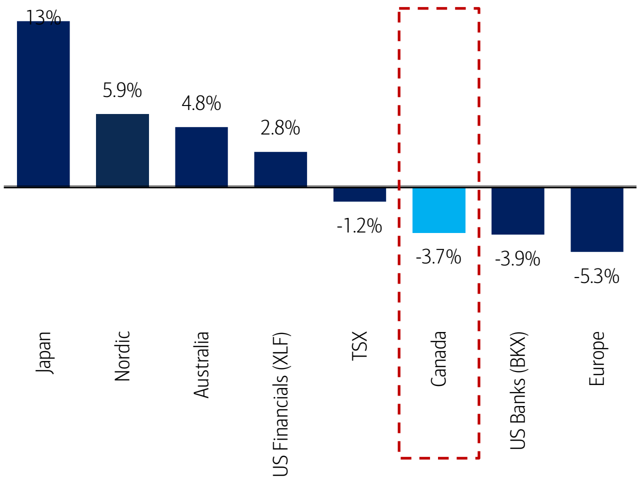
Exhibit 17: Dividend yields high as banks exceed 40-50% payout range
Dividend payout ratio vs. dividend yield



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

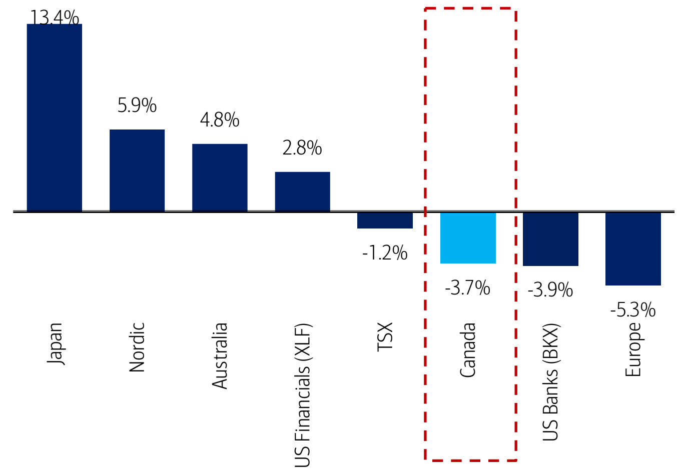
Exhibit 18: Canadian banks underperformed most peers YTD…
Price performance of global banks YTD



Source: BofA Global Research, Bloomberg. Note: Calculated based on the average YTD performance of the largest banks in each respective region. Japan includes MUFG, Mizuho, Sumitomo Mitsui; Australia includes ANZ, BOQ, BEN, CBA, NAB, WBC; Canada includes BMO, BNS, RT, TD, CM; Europe includes BARC, DBK, USSG, HSBA; Nordic includes DANSKE, DNB, SEBA, SHBA, SWEDA, NDA. Performance as of 2/12/24.

BofA GLOBAL RESEARCH

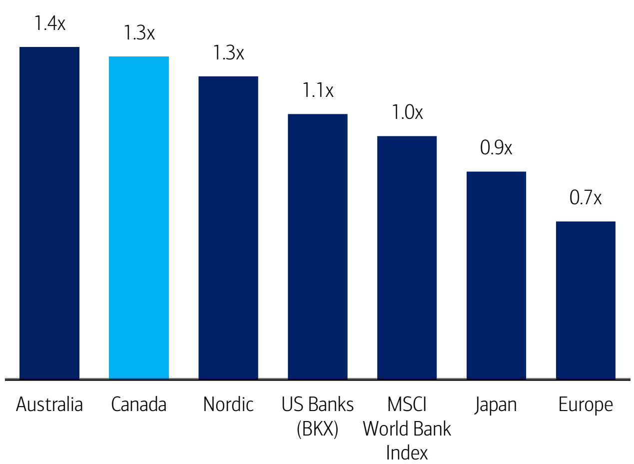
Exhibit 19: …as well as quarter to date
Price performance of global banks QTD



Source: BofA Global Research, Bloomberg. Note: Calculated based on the average QTD performance of the largest banks in each respective region. Japan includes MUFG, Mizuho, Sumitomo Mitsui; Australia includes ANZ, BOQ, BEN, CBA, NAB, WBC; Canada includes BMO, BNS, RY, TD, CM; Europe includes BARC, DBK, USSG, HSBA; Nordic includes DANSKE, DNB, SEBA, SHBA, SWEDA, NDA. Performance as of 2/12/24.

BofA GLOBAL RESEARCH

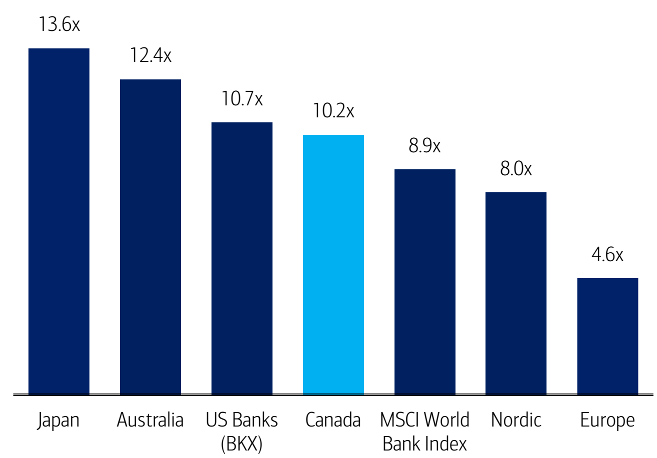
Exhibit 20: Canadian banks are trading at a P/B premium to peers…
Global banks P/B ratio



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 21: …but trade in-line with peers on a P/E basis
Global banks' P/E ratios

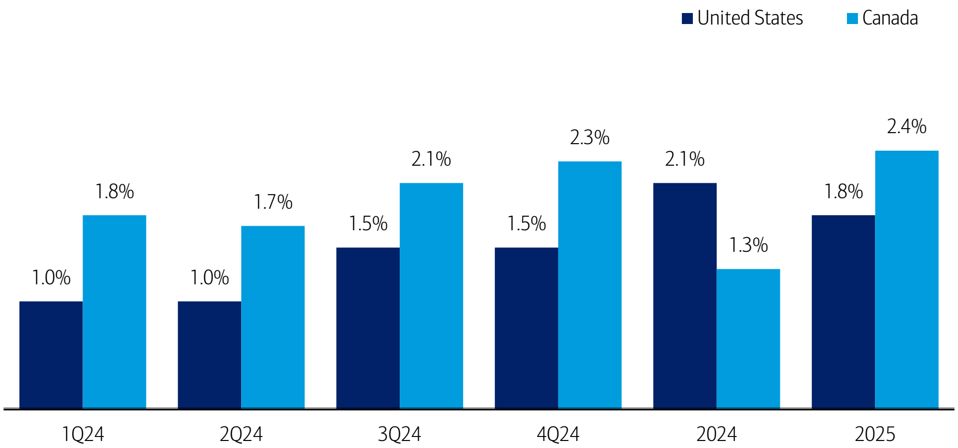


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Canadian GDP growth to lag the U.S. until 2025 given quicker transmission of monetary policy, implied by BofA Economics forecast. 2024 GDP growth forecast: +2.1% U.S./+1.3% CAD, 2025: +1.8%/+2.4%

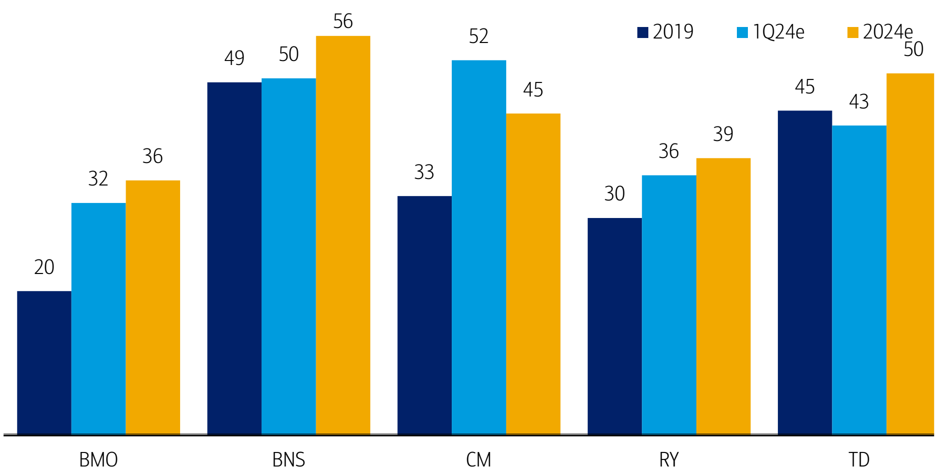
Exhibit 22: The US is expected to grow nearly 1% faster than Canada in 2024
US vs Canadian GDP growth, QoQ annualized



Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 23: We see PCLs increasing as normalization continues
PCL ratio forecast (in bps)

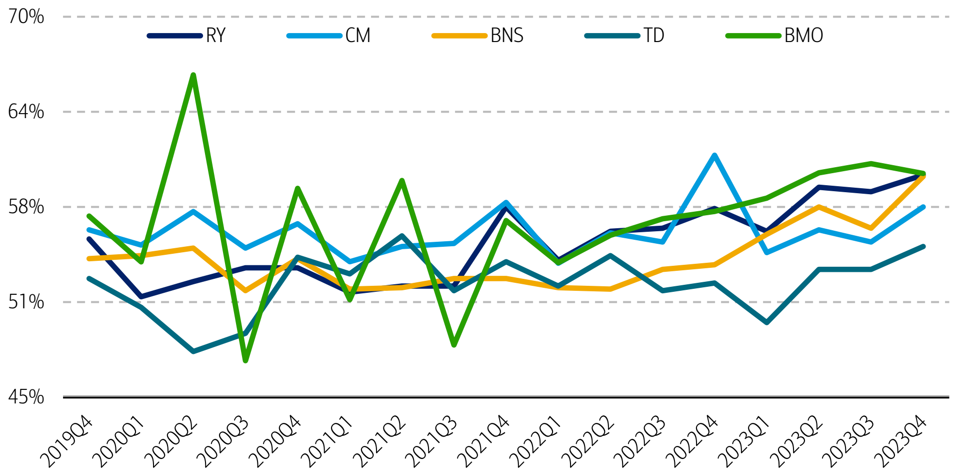


Source: BofA Global Research, company reports

BofA GLOBAL RESEARCH

Canadian bank management teams have guided to remaining around ~12.5% CET1 vs. 13.0% 4Q23 avg. for the big 5 banks. Most management teams expecting a modest/immaterial impact to CET1 from FRTB/Trading Floor factor increases in 1Q24, while one peer expects to see a 75bp hit to CET1.

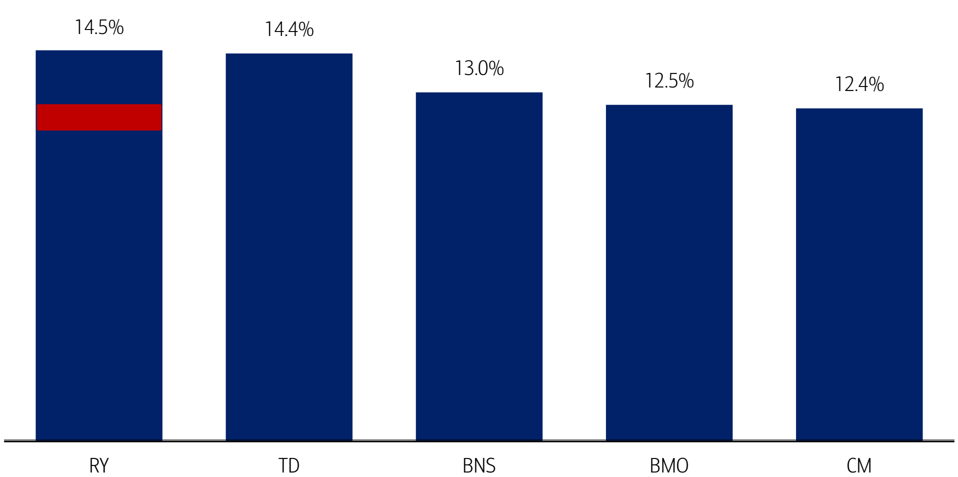
Exhibit 24: TD historical expense discipline will be challenged by compliance costs
Consolidated efficiency ratio by bank, 4Q19-4Q23



Source: BofA Global Research, Company filings

BofA GLOBAL RESEARCH

Exhibit 25: RBC could see a 250bp hit to capital on the close of HSBC Canada
4Q23 CET1, RY adjusted for HSBC Canada

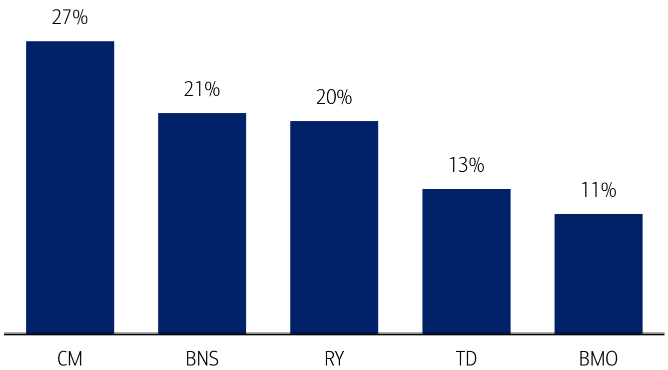


Source: BofA Global Research, Company filings

BofA GLOBAL RESEARCH

Mortgage Stress Front and Center

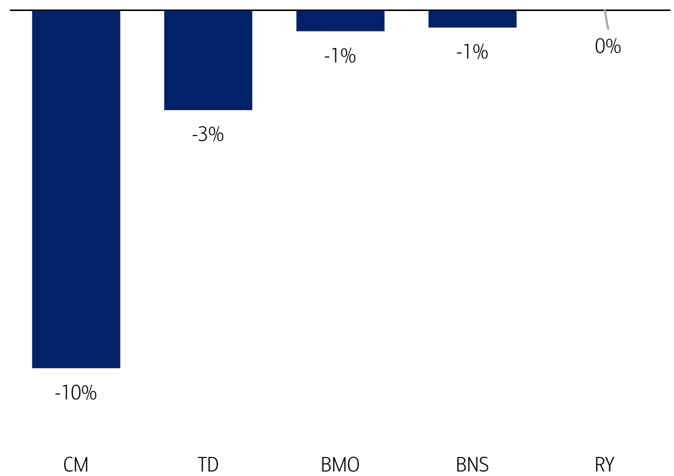
Exhibit 26: Banks with big U.S. presence less exposed to CAD mortgage
Canadian resi mortgage loans as a % of total assets



Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH

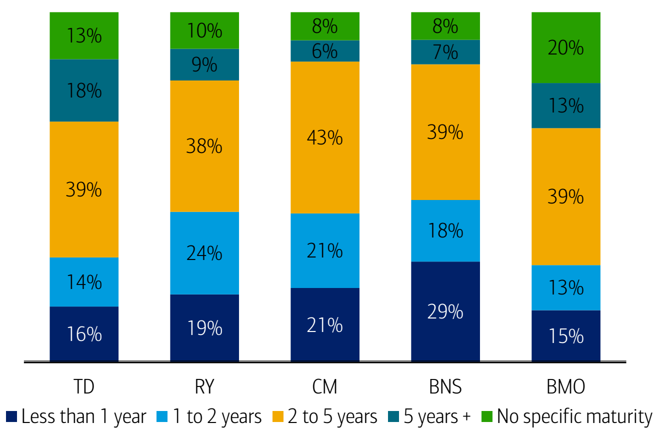
Exhibit 27: Mortgages with amortization >25 years down 300bp QoQ
Δ in % of Canadian resi mortgages, amortization >25 years 4Q23/3Q23



Source: BofA Global Research, Company filings

BofA GLOBAL RESEARCH

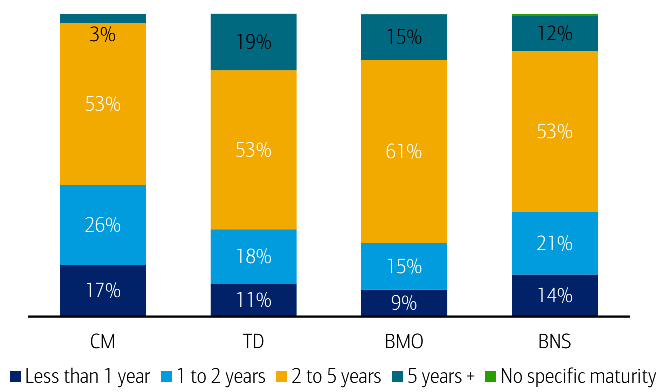
Exhibit 28: ~40% of loans will mature between 2026-2028
Loan maturity by bank



Source: BofA Global Research, company filings

BofA GLOBAL RESEARCH

Exhibit 29: ~50% of mortgages will mature between 2026-2028
Mortgage maturity by bank



Source: BofA Global Research, company filings

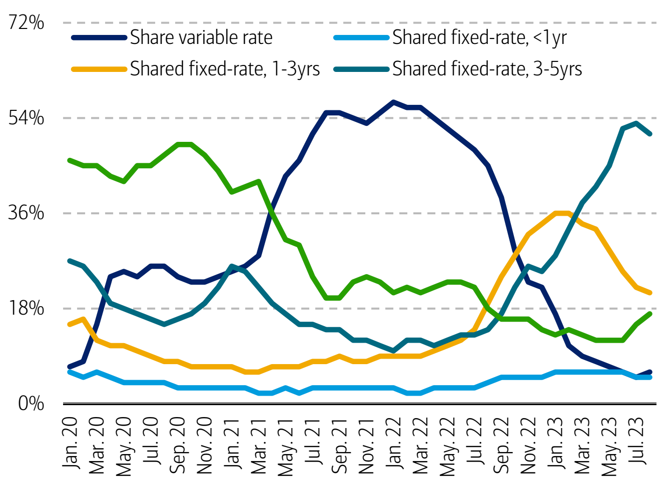
BofA GLOBAL RESEARCH

Exhibit 30: 5yr govt. bond pulled back 60bp from post GFC high
Canadian 5 year government bond yield

Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

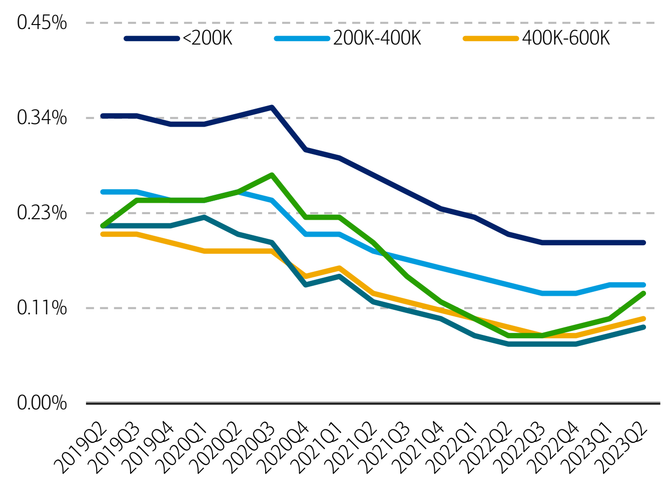
Exhibit 31: Preference for mortgages has shifted to fixed-rate, 3-5yrs
Mortgage mix by month



Source: StatCan, Bank of Canada, CMHC

BofA GLOBAL RESEARCH

Exhibit 32: Delinquencies in all value ranges below pre-COVID
Mortgage delinquency rates by mortgage value at origination

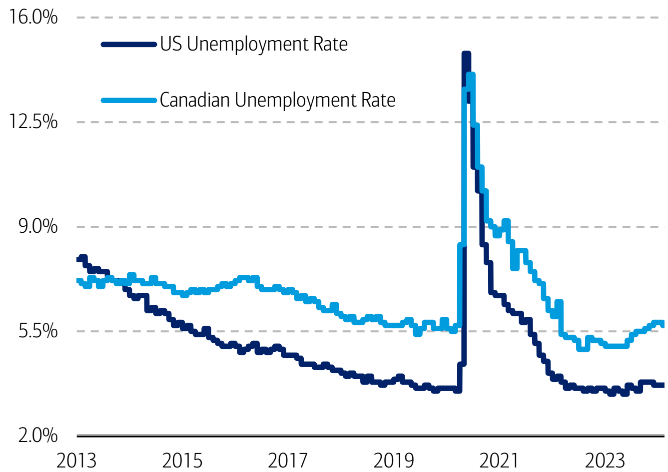


Source: Equifax, CMHC

BofA GLOBAL RESEARCH

With continued creep upwards in unemployment rate (5.8%, same as December 2019 levels), banks are expecting deterioration to manifest primarily in unsecured lines of credit and credit cards.

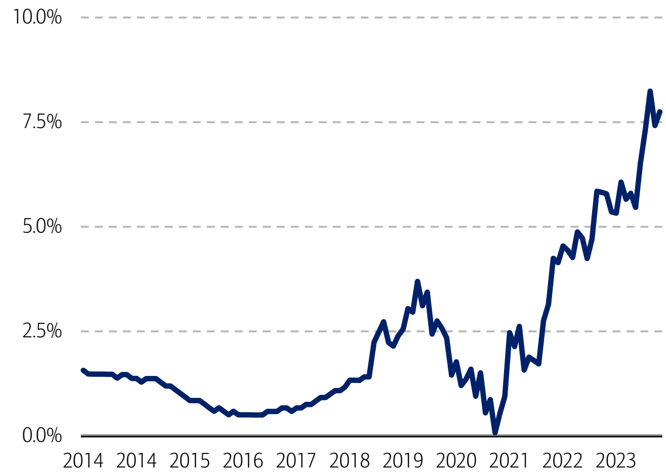
Exhibit 33: Unemployment in Canada has returned to 2019 levels
US vs Canadian unemployment rate



Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Exhibit 34: Rent inflation has declined from recent record highs
YoY change in rental prices

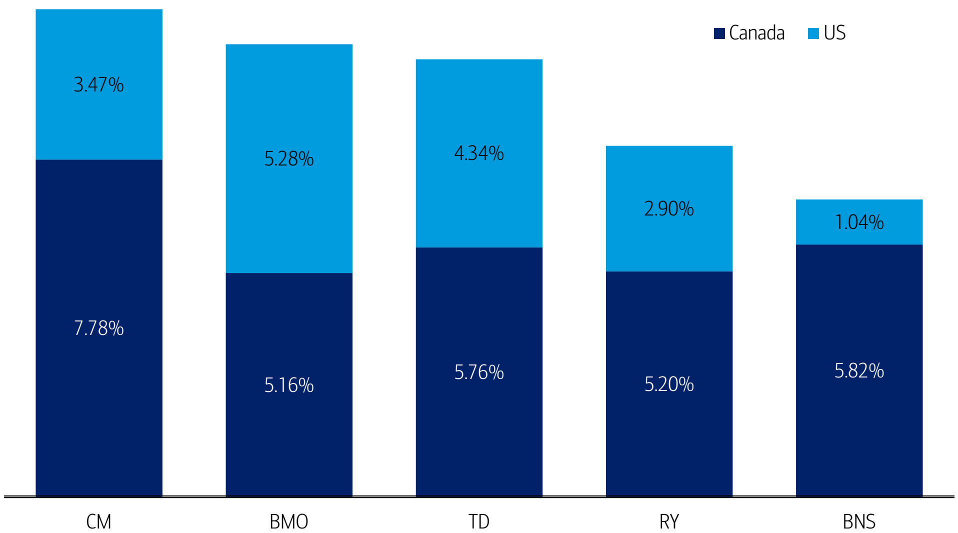


Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Commerce has the largest exposure to CRE, at >10% of total loans. But exposure to U.S. office limited (<1% of total loans, 20% of US CRE).

Exhibit 35: CRE is 10% of total loans for the big 5 banks, on average
CRE loans as a % of total loans, US vs Canada



Source: BofA Global Research, Company filings

BofA GLOBAL RESEARCH

Capital markets trends

Exhibit 36: Dealogic data implies a +25% YoY growth in M&A revenues
Canadian Bank M&A revenues

($mn)	1Q23	2Q23	3Q23	4Q23	1Q24	YoY	QoQ
RBC Capital Markets	150	83	98	137	152	1%	11%
BMO Capital Markets	43	63	26	77	40	-7%	-48%
TD Securities Inc	11	61	20	34	29	163%	-15%
CIBC World Markets	12	38	25	7	24	92%	230%
Scotiabank	3	28	24	20	7	113%	-65%
Total	220	275	192	275	252	25%	-8%

Source: BofA Global Research, Dealogic

BofA GLOBAL RESEARCH

Exhibit 37: Dealogic data implies a +8% YoY increase in ECM revenues
Canadian Bank ECM revenues

($mn)	1Q23	2Q23	3Q23	4Q23	1Q24	YoY	QoQ
RBC Capital Markets	49	29	39	39	37	-23%	-5%
BMO Capital Markets	62	10	20	29	42	-33%	46%
TD Securities Inc	12	5	58	45	59	385%	31%
CIBC World Markets	16	4	11	15	10	-36%	-30%
Scotiabank	11	9	17	16	13	26%	-20%
Total	149	57	145	144	162	8%	12%

Source: BofA Global Research, Dealogic

BofA GLOBAL RESEARCH

Exhibit 38: Dealogic data implies a +30% YoY increase in DCM revenues
Canadian Bank DCM revenues

($mn)	1Q23	2Q23	3Q23	4Q23	1Q24	YoY	QoQ
RBC Capital Markets	99	137	129	101	147	48%	46%
BMO Capital Markets	61	50	69	54	86	40%	59%
TD Securities Inc	92	87	93	84	102	10%	21%
CIBC World Markets	37	37	36	34	46	24%	33%
Scotiabank	54	59	70	53	64	20%	22%
Total	343	370	397	326	445	30%	37%

Source: BofA Global Research, Dealogic

BofA GLOBAL RESEARCH

Price objective basis & risk

Bank of Montreal (YBMO / BMO)

Our $145 PO (US$109) is based on applying a P/BV multiple of 1.4x (50% weight) to our YE24e BV and a 12.5x P/E (50% weight) multiple to our 2024e P/E. These multiples are in line with the median of the group (12.0x P/E, 1.4x P/B).

Downside risks: 1) a Canadian and/or U.S. recession that would drive higher than expected credit costs, 2) deterioration in capital markets activity, 3) a dramatic shift in the interest rate outlook, and 4) unforeseen risks tied to the integration of Bank of the West

Upside risks to our PO: 1) a stronger economy/growth, 2) better than expected synergies from the Bank of the West acquisition, and 3) an economic soft landing that leads to reduce funding cost pressures while asset quality holds up

Bank of Nova Scotia (YBNS / BNS)

Our $67 PO (US$51) is calculated based off of applying a P/BV multiple of 1.2x (50% weight) to our YE24e BV and a 9.6x P/E (50% weight) to our 2024eP/E. These multiples are below peer multiples at 12.0x P/E and 1.4 P/B for the group.

Upside risks: 1) continued resilience of the Canadian consumer and thereby its housing market could alleviate the risk from a housing slowdown, 2) better than expected economic growth in the LatAm markets, which could accelerate loan growth and keep credit losses at a moderate level, and 3) successful push to grow core deposits and thereby improve profitability through a shift in funding mix toward lower-cost source of funds.

Downside risks: 1) a sharp downturn in the Canadian housing market and rise in unemployment rate could lead to higher credit losses, 2) a worse than expected slowdown in Latin American economies could lead to anemic loan growth and accelerating credit losses, 3) inability to grow core deposits and continued reliance on higher cost of funds, thereby weakening profitability.

Canadian Imperial Bank of Commerce (YCM / CM)

Our $66 PO (US$50) is calculated based off of applying a P/BV multiple of 1.2x (50% weight) to our YE24e BV and a 10.0x P/E (50% weight) to our 2024eP/E. These multiples are below peer multiples at 12.0x P/E and 1.4x P/B for the group.

Upside risks: 1) Continued resilience of the Canadian consumer and a faster-than-expected rebound in residential mortgage growth. 2) Better-than-expected growth in the capital markets business due to increased markets activity and/or continuing market share gains. 3) Stronger than expected margin expansion, which would drive profitability higher.

Downside risks: 1) A sharp downturn in the Canadian housing market and rise in unemployment rate that could lead to higher credit losses. 2) Inability to defend against a worsening revenue backdrop via expense actions. 3) Weaker than expected margin expansion, which would be a headwind for profitability.

Royal Bank of Canada (YRY / RY)

Our $146 PO (USD $108) is based on applying a P/BV multiple of 1.8x (50% weight) to our YE24e BV and an 12.5x P/E (50% weight) multiple to our 2024e P/E. These multiples are a premium to the 12.0x P/E and 1.4x P/B for the group. We see a premium valuation as warranted given RY's superior EPS/ROE defensibility and franchise diversity.

Downside risks to our price objective are: 1) a Canadian and/or U.S. recession that would drive higher than expected credit costs, 2) deterioration in capital markets activity 3) a dramatic shift in the interest rate outlook, 4) unforeseen risks tied to the integration of HSBC Canada.

Upside risk to our PO is: (1) a stronger economy/growth, (2) better than expected synergies from the HSBC Canada acquisition, and (3) economic soft landing that leads to reduced funding cost pressures while asset quality holds-up.

Toronto-Dominion Bank (YTD / TD)
Our $86 PO (USD $64) is based on applying a P/BV multiple of 1.4x (50% weight) to our YE24 BV and an 12.5x P/E (50% weight) multiple to our 2024e P/E. These multiples are in-line/slightly above the median of 12.0x P/E and 1.4x P/B for the group.

Downside risks to our price objective are: 1) a Canadian and/or U.S. recession that would drive higher than expected credit costs, 2) deterioration in capital markets activity 3) a dramatic shift in the interest rate outlook, 4) the DOJ's investigation into TD's compliance with anti-money laundering rules that leads to a worse than expected outcome 5) greater than expected margin compression due to the interest rate backdrop and competitive environment.

Upside risks to our price objective are: (1) stronger economic growth, (2) better growth driven by market share gains (3) faster pace of capital deployment.

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
BUY				
	Ares Capital Corporation	ARCC	ARCC US	Derek Hewett
	Ares Commercial Real Estate Corporation	ACRE	ACRE US	Derek Hewett
	Bank of Montreal	BMO	BMO US	Ebrahim H. Poonawala
	Bank of Montreal	YBMO	BMO CN	Ebrahim H. Poonawala
	Barings BDC Inc	BBDC	BBDC US	Derek Hewett
	Blackstone Mortgage Trust Inc	BXMT	BXMT US	Derek Hewett
	Blue Owl Capital Corporation	OBDC	OBDC US	Derek Hewett
	Carlyle Secured Lending Inc	CGBD	CGBD US	Derek Hewett
	Citigroup Inc.	C	C US	Ebrahim H. Poonawala
	Compass Diversified Holdings	CODI	CODI US	Derek Hewett
	Crescent Capital BDC	CCAP	CCAP US	Derek Hewett
	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
	FNB Corporation of Pennsylvania	FNB	FNB US	Brandon Berman
	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 Mountain Finance Corporation	NMFC	NMFC US	Derek Hewett
	Northern Trust Corporation	NTRS	NTRS US	Ebrahim H. Poonawala
	Royal Bank of Canada	RY	RY US	Ebrahim H. Poonawala
	Royal Bank of Canada	YRY	RY CN	Ebrahim H. Poonawala
	Safehold, Inc	SAFE	SAFE US	Derek Hewett
	Sixth Street Specialty Lending, Inc	TSLX	TSLX US	Derek Hewett
	Starwood Property Trust	STWD	STWD US	Derek Hewett
	Synovus Financial Corp.	SNV	SNV US	Ebrahim H. Poonawala
	The Bank of New York Mellon Corporation	BK	BK US	Ebrahim H. Poonawala
	Truist Financial	TFC	TFC US	Ebrahim H. Poonawala
	U.S. Bancorp	USB	USB US	Ebrahim H. Poonawala
	Webster Financial Corp.	WBS	WBS US	Brandon Berman
	Wells Fargo & Company	WFC	WFC US	Ebrahim H. Poonawala
	Western Alliance Bancorp	WAL	WAL US	Ebrahim H. Poonawala
NEUTRAL				
	AGNC Investment Corp	AGNC	AGNC US	Derek Hewett
	Ally Financial	ALLY	ALLY US	Brandon Berman
	Annaly Capital Management	NLY	NLY US	Derek Hewett
	Apollo Commercial Real Estate Finance	ARI	ARI US	Derek Hewett
	Associated Banc-Corp	ASB	ASB US	Brandon Berman
	Bain Capital Specialty Finance, Inc.	BCSF	BCSF US	Derek Hewett
	Bank of Nova Scotia	YBNS	BNS CN	Ebrahim H. Poonawala
	Bank of Nova Scotia	BNS	BNS US	Ebrahim H. Poonawala
	Blackstone Secured Lending Fund	BXSL	BXSL US	Derek Hewett
	BrightSpire Capital Inc.	BRSP	BRSP US	Derek Hewett
	Canadian Imperial Bank of Commerce	CM	CM US	Ebrahim H. Poonawala
	Canadian Imperial Bank of Commerce	YCM	CM CN	Ebrahim H. Poonawala
	Citizens Financial Group	CFG	CFG US	Ebrahim H. Poonawala
	Comerica Incorporated	CMA	CMA US	Brandon Berman
	Commerce Bancshares Inc.	CBSH	CBSH US	Brandon Berman
	Goldman Sachs BDC, Inc.	GSBD	GSBD US	Derek Hewett
	Golub Capital BDC, Inc.	GBDC	GBDC US	Derek Hewett
	Huntington Bancshares Inc.	HBAN	HBAN US	Ebrahim H. Poonawala
	Ladder Capital Corp	LADR	LADR US	Derek Hewett
	New York Community Bancorp	NYCB	NYCB US	Ebrahim H. Poonawala
	Palmer Square Capital BDC	PSBD	PSBD US	Derek Hewett
	PennyMac Mortgage Investment Trust	PMT	PMT US	Derek Hewett
	Popular Inc	BPOP	BPOP US	Brandon Berman
	Regions Financial	RF	RF US	Ebrahim H. Poonawala
	The PNC Financial Services Group, Inc.	PNC	PNC US	Ebrahim H. Poonawala
	Toronto-Dominion Bank	TD	TD US	Ebrahim H. Poonawala

North America - Banks Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Toronto-Dominion Bank	YTD	TD CN	Ebrahim H. Poonawala
	TPG RE Finance Trust, Inc.	TRTX	TRTX US	Derek Hewett
UNDERPERFORM				
	Bank of Hawaii Corp.	BOH	BOH US	Brandon Berman
	First Hawaiian Inc.	FHB	FHB US	Brandon Berman
	Guild Holdings Company	GHLD	GHLD US	Derek Hewett
	Invesco Mortgage Capital, Inc.	IVR	IVR US	Derek Hewett
	loanDepot Inc	LDI	LDI US	Derek Hewett
	MidCap Financial Investment Co	MFIC	MFIC US	Derek Hewett
	Prosperity Bancshares Inc	PB	PB US	Ebrahim H. Poonawala
	State Street Corporation	STT	STT US	Ebrahim H. Poonawala
	Texas Capital Bancshares Inc.	TCBI	TCBI US	Brandon Berman
	Zions Bancorp	ZION	ZION US	Brandon Berman

Disclosures

Important Disclosures

Equity Investment Rating Distribution: Banks Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	100	49.75%	Buy	84	84.00%
Hold	54	26.87%	Hold	41	75.93%
Sell	47	23.38%	Sell	35	74.47%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

[R1] 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[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]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.

Price Charts for the securities referenced in this research report are available on the Price Charts website, or call 1-800-MERRILL to have them mailed.
BofAS or one of its affiliates acts as a market maker for the equity securities recommended in the report: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank.
BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
The issuer is or was, within the last 12 months, an investment banking client of BofAS and/or one or more of its affiliates: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
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: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
BofAS or an affiliate has received compensation for investment banking services from this issuer within the past 12 months: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
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: Bank of

Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
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: Royal Bank, TD Bank Financ'l.
BofAS or one of its affiliates is willing to sell to, or buy from, clients the common equity of the issuer on a principal basis: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank.
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: Bank of Montreal, Bank of Nova Scotia, Canadian Imp Bank, Royal Bank, TD Bank Financ'l.
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.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Global Research policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
Refer to BofA Global Research policies relating to conflicts of interest.
"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.
Information relating to Non-US affiliates of BofA Securities and Distribution of Affiliate Research Reports:
BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.
General Investment Related Disclosures:
Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.
This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion

expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

This report may contain a short-term trading idea or recommendation, which highlights a specific near-term catalyst or event impacting the issuer or the market that is anticipated to have a short-term price impact on the equity securities of the issuer. Short-term trading ideas and recommendations are different from and do not affect a stock's fundamental equity rating, which reflects both a longer term total return expectation and attractiveness for investment relative to other stocks within its Coverage Cluster. Short-term trading ideas and recommendations may be more or less positive than a stock's fundamental equity rating.

BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned herein. Investors in such securities and instruments, including ADRs, effectively assume currency risk.

BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

BofA ESGMeter Methodology:

ESGMeter is a proprietary metric based on quantitative analysis and fundamental analyst inputs that reflects our assessment of a company's Environmental, Social and Governance-related attributes. The ESGMeter is intended to indicate a company's likelihood of experiencing stronger financial stability (higher return on equity and lower earnings and price volatility) over the next three years relative to peer group. There are three ESGMeter levels - Low, Medium, and High - which indicate whether a company has attributes most likely to translate into superior financial stability (in the case of a High level) or weaker financial stability (in the case of a Low level) over the next three years relative to its peer group. A Medium level suggests that a company exhibits ESG characteristics that are likely associated with financial stability results in line with its peer group over the next three years. Full details of our methodology, financial stability definition and disclaimers are available at BofA ESGMeter methodology. ESGMeter is not indicative of a company's future stock price performance and is not an investment recommendation or rating. ESGMeter is independent of the BofA Global Research fundamental equity analyst's investment rating, volatility risk rating, income rating or price objective for that company.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.

This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing such rating, recommendation or investment thesis.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Subject to the quiet period applicable under laws of the various jurisdictions in which we distribute research reports and other legal and BofA Securities policy-related restrictions on the publication of research reports, fundamental equity reports are produced on a regular basis as necessary to keep the investment recommendation current.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.

In some cases, an issuer may be classified as Restricted or may be Under Review or Extended Review. In each case, investors should consider any investment opinion relating to such issuer (or its security and/or financial instruments) to be suspended or withdrawn and should not rely on the analyses and investment opinion(s) pertaining to such issuer (or its securities and/or financial instruments) nor should the analyses or opinion(s) be considered a solicitation of any kind. Sales persons and financial advisors affiliated with BofAS or any of its affiliates may not solicit