

## Residential REITs

## BofA's jobless claims tracker – a real time snapshot on the state of Resi demand

Industry Overview

## Jobless claims data can help assess demand risk

In this report, we track the Department of Labor's (DoL) unemployment claims (initial and continued) data. The data is useful for tracking potential changes in demand for the Residential REITs. Jobless claims are filed weekly providing a real time snapshot on the state of the labor market. We publish this report bi-weekly to provide insight into the current state of the labor market and implications for the Residential REITs.

## Sunbelt has strong demand but supply risk too acute in '24

As Exhibit 2 highlights, the absolute levels of initial jobless claims as a percent of the population are lower in the Sunbelt (0.5%) than in Gateway (1.3%). On a relative basis, Exhibit 3 shows that Sunbelt (-1bp) is outperforming Gateway (+8bp) in 1Q24. Note that a positive change reflects an increase in claims as a percent of the population (negative for demand). We have Underperforms on both Sunbelt Apartment REITs (CPT & MAA) given the supply risk.

## Little relative change between Gateway &amp; Sunbelt

Exhibit 1 shows jobless claims indexed to 100 at the start of '23. Jobless claims in the Gateway markets started rising in October '22 and peaked in March '23. We attribute this increase to tech layoff announcements. Since July '23, there has been little relative change between Gateway & Sunbelt markets. We will be watching closely for any signs of a weakening labor market. Please see inside for more charts and tables highlighting the relative performance across markets and REITs.

## Exhibit 2: Total initial jobless claims during the quarter as a percent of the population

Initial claims are trending better than last year

	1Q24	Rank	4Q23	Δ Q/Q	Rank	1Q23	Δ Y/Y	Rank
<b>National</b>	0.8%		0.8%	-1bps ▼		0.8%	-4bps ▼	
Gateway	1.3%	2	1.2%	8bps ▲	2	1.3%	0bps ►	2
Sunbelt	0.5%	1	0.6%	-1bps ▼	1	0.5%	0bps ►	1
<b>Apartment REITs</b>								
AIRC	1.3%	6	1.2%	8bps ▲	6	1.3%	-2bps ▼	5
AVB	1.4%	7	1.3%	9bps ▲	7	1.4%	-2bps ▼	6
CPT	0.8%	3	0.7%	1bps ▲	3	0.8%	-1bps ▼	8
EQR	1.4%	8	1.3%	9bps ▲	8	1.5%	-3bps ▼	3
ESS	1.5%	9	1.4%	9bps ▲	9	1.6%	-4bps ▼	1
MAA	0.6%	1	0.6%	-2bps ▼	2	0.6%	0bps ►	9
UDR	1.2%	5	1.1%	6bps ▲	5	1.2%	-2bps ▼	7
<b>SFR REITs</b>								
AMH	0.6%	2	0.6%	-4bps ▼	1	0.6%	-4bps ▼	2
INVH	0.9%	4	0.9%	4bps ▲	4	0.9%	-3bps ▼	4

Source: Department of Labor, Haver Analytics, company filings

Note: current quarter sum is projected based on QTD data available.

Gateway consists of CA, D.C., MA, NY, WA; Sunbelt consists of AZ, FL, GA, NC, TN, TX

15 March 2024

Equity  
United States  
REITs

Joshua Dennerlein

Research Analyst  
BofAS  
+1 646 855 1681  
joshua.dennerlein@bofa.com

Jeffrey Spector

Research Analyst  
BofAS  
+1 646 855 1363  
jeff.spector@bofa.com

Daniel Byun

Research Analyst  
BofAS  
daniel.byun@bofa.com

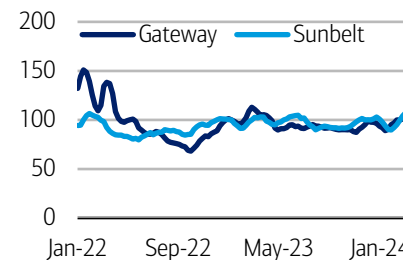
REITs Team

BofAS

[See Team Page for List of Analysts](#)

## Exhibit 1: Gateway vs sunbelt markets

T4Wk average of Initial jobless claims, indexed to 100 on 1/7/2023



Source: Department of Labor, Haver Analytics

Note: Gateway consists of CA, D.C., MA, NY, WA;

Sunbelt consists of AZ, FL, GA, NC, TN, TX

BofA GLOBAL RESEARCH

BofA GLOBAL RESEARCH

BofA Securities does and seeks to do business with issuers covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Refer to important disclosures on page 7 to 10. Analyst Certification on page 5. Price Objective Basis/Risk on page 4.

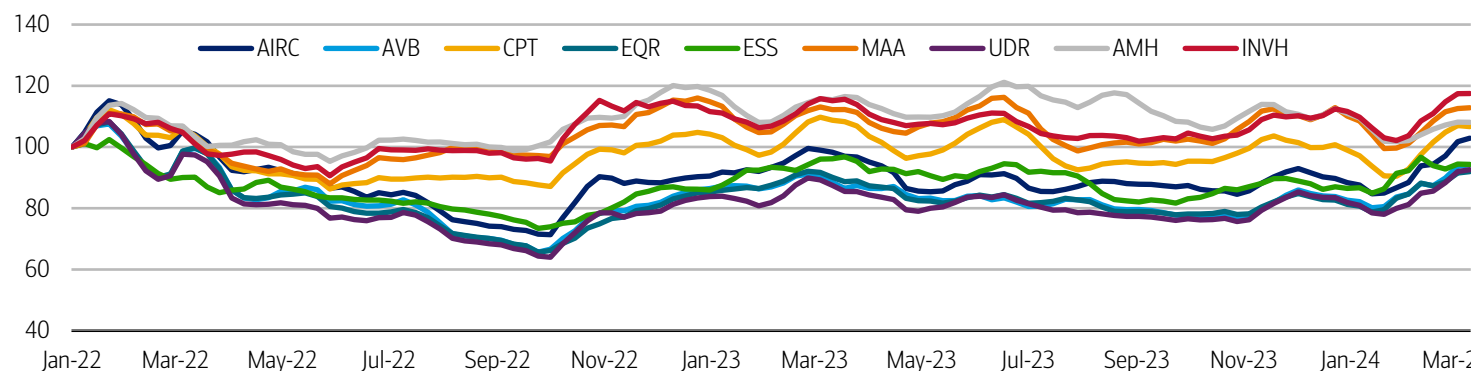
12670696

Timestamp: 15 March 2024 12:01AM EDT

W

**Exhibit 3: Relative performance of initial jobless claims across each REIT's portfolio**

Trailing four-week average of Initial jobless claims, indexed to 100 on 1/1/2022; Initial claims in Residential REITs are trending higher since October 2022

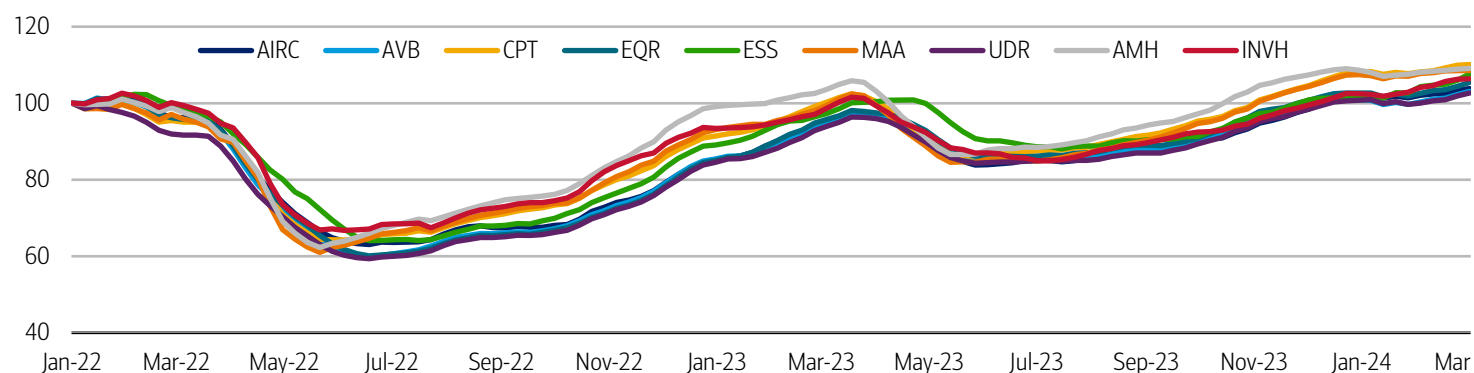


Source: Department of Labor, Haver Analytics, company filings

BofA GLOBAL RESEARCH

**Exhibit 4: Relative performance of continuing jobless claims across each REIT's portfolio**

Trailing four-week average of continuing jobless claims, indexed to 100 on 1/1/2022; Continuing claims in Residential REITs are trending higher since June 2022

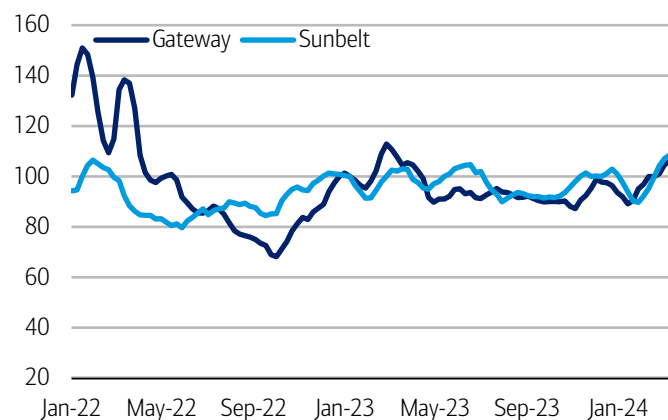


Source: Department of Labor, Haver Analytics, company filings

BofA GLOBAL RESEARCH

**Exhibit 5: Initial jobless claims - Gateway vs sunbelt markets**

T4Wk average of Initial jobless claims, indexed to 100 on 1/7/2023; Sunbelt is in line with Gateway since July 2023



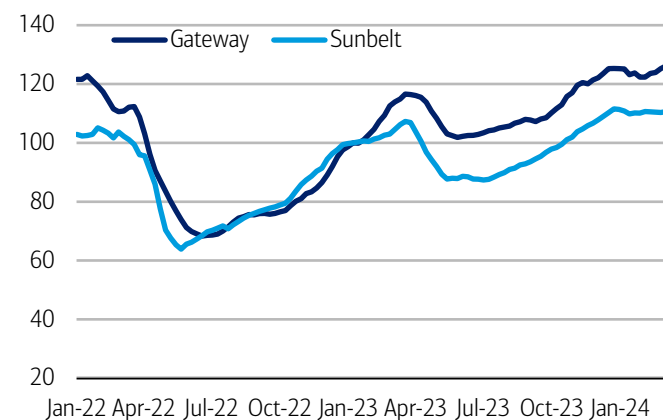
Source: Department of Labor, Haver Analytics

Note: Gateway consists of CA, D.C., MA, NY, WA; Sunbelt consists of AZ, FL, GA, NC, TN, TX

BofA GLOBAL RESEARCH

**Exhibit 6: Continuing jobless claims - Gateway vs sunbelt markets**

T4Wk average of continuing jobless claims, indexed to 100 on 1/7/2023; Sunbelt is outperforming Gateway since January 2023



Source: Department of Labor, Haver Analytics

Note: Gateway consists of CA, D.C., MA, NY, WA; Sunbelt consists of AZ, FL, GA, NC, TN, TX

BofA GLOBAL RESEARCH

## Jobless claims per population

In the charts below we calculate jobless claims as a percentage of the population. We believe looking at claims as a percent of the population normalizes the data for the size of each state.

### Exhibit 7: Total initial jobless claims during the quarter as a percent of the population

Initial claims are trending better than last year

	1Q24	Rank	4Q23	Δ Q/Q	Rank	1Q23	Δ Y/Y	Rank
<b>National</b>	0.8%		0.8%	-1bps ▼		0.8%	-4bps ▼	
Gateway	1.3%	2	1.2%	8bps ▲	2	1.3%	0bps ►	2
Sunbelt	0.5%	1	0.6%	-1bps ▼	1	0.5%	0bps ►	1
<b>Apartment REITs</b>								
AIRC	1.3%	6	1.2%	8bps ▲	6	1.3%	-2bps ▼	5
AVB	1.4%	7	1.3%	9bps ▲	7	1.4%	-2bps ▼	6
CPT	0.8%	3	0.7%	1bps ▲	3	0.8%	-1bps ▼	8
EQR	1.4%	8	1.3%	9bps ▲	8	1.5%	-3bps ▼	3
ESS	1.5%	9	1.4%	9bps ▲	9	1.6%	-4bps ▼	1
MAA	0.6%	1	0.6%	-2bps ▼	2	0.6%	0bps ►	9
UDR	1.2%	5	1.1%	6bps ▲	5	1.2%	-2bps ▼	7
<b>SFR REITs</b>								
AMH	0.6%	2	0.6%	-4bps ▼	1	0.6%	-4bps ▼	2
INVH	0.9%	4	0.9%	4bps ▲	4	0.9%	-3bps ▼	4

Source: Department of Labor, Haver Analytics, company filings

Note: current quarter sum is projected based on QTD data available.

Gateway consists of CA, D.C., MA, NY, WA; Sunbelt consists of AZ, FL, GA, NC, TN, TX

BofA GLOBAL RESEARCH

### Exhibit 8: Average continued jobless claims during the quarter as a percent of the population

Continued claims are trending worse than last year

	1Q24	Rank	4Q23	Δ Q/Q	Rank	1Q23	Δ Y/Y	Rank
<b>National</b>	0.5%		0.5%	0bps ►		0.5%	4bps ▲	
Gateway	1.0%	2	1.0%	4bps ▲	2	0.9%	7bps ▲	2
Sunbelt	0.3%	1	0.3%	1bps ▲	1	0.3%	3bps ▲	1
<b>Apartment REITs</b>								
AIRC	0.9%	6	0.8%	5bps ▲	7	0.8%	6bps ▲	6
AVB	1.0%	7	1.0%	5bps ▲	6	1.0%	7bps ▲	7
CPT	0.5%	3	0.5%	3bps ▲	3	0.5%	4bps ▲	4
EQR	1.0%	8	1.0%	6bps ▲	8	1.0%	7bps ▲	8
ESS	1.1%	9	1.0%	7bps ▲	9	1.0%	7bps ▲	9
MAA	0.4%	1	0.3%	2bps ▲	2	0.3%	3bps ▲	3
UDR	0.8%	5	0.8%	4bps ▲	5	0.8%	6bps ▲	5
<b>SFR REITs</b>								
AMH	0.4%	2	0.4%	2bps ▲	1	0.3%	3bps ▲	1
INVH	0.6%	4	0.6%	4bps ▲	4	0.6%	3bps ▲	2

Source: Department of Labor, Haver Analytics, company filings

Note: current quarter average is calculated with QTD data available.

Gateway consists of CA, D.C., MA, NY, WA; Sunbelt consists of AZ, FL, GA, NC, TN, TX

BofA GLOBAL RESEARCH



# Key terms

**Mkts:** Markets

**T4Wk:** Trailing 4-Week Average

**Resi:** Residential

**SA:** Seasonally Adjusted

**SFR:** Single Family Rental

**AZ:** Arizona

**CA:** California

**D.C.:** Washington D.C.

**FL:** Florida

**GA:** Georgia

**MA:** Massachusetts

**NC:** North Carolina

**NY:** New York

**TN:** Tennessee

**TX:** Texas

**WA:** Washington

**AIRC:** Apartment Income REIT Corp

**AVB:** AvalonBay Communities Inc

**CPT:** Camden Property Trust

**EQR:** Equity Residential

**ESS:** Essex Property Trust Inc

**MAA:** Mid-America Apartment Communities Inc

**UDR:** UDR, Inc.

**AMH:** American Homes 4 Rent

**INVH:** Invitation Homes Inc

## Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
CPT	CPT US	Camden Property	US\$ 97.92	B-3-7
MAA	MAA US	Mid-America Ap	US\$ 130.27	B-3-7

Source: BofA Global Research

## Price objective basis & risk

### Camden Property Trust (CPT)

Our price objective for CPT of \$97 trades at a 10% discount to our forward NAV estimate. We derive our NAV estimate from applying a 6.4% cap rate to our forward NOI estimate. We use a 6.4% cap rate for CPT based on our view of interest rates over the next year, current private market/transaction comps, and the market exposure of CPT. The upside risks to our price objective are better-than-expected job growth and operating conditions in CPT's markets and lower interest rates. The downside risks to our price objective are unemployment and operating conditions in CPT's markets deteriorating beyond our expectations and higher interest rates. In addition, a reduction in GSE (government sponsored enterprise) lending to the multifamily sector could weigh on CPT's access to capital, borrowing costs, and direct real estate values.

### Mid-America Apartment Communities, Inc. (MAA)

Our \$132 price objective implies a 10% discount to our forward NAV estimate. We derive our one year forward NAV estimate by applying a 6.3% cap rate to our forward NOI estimate. We use a 6.3% cap rate based on our view of interest rates over the next year, current private market/transaction comps, and the market exposure of MAA.

Downside risks to our PO are the company's high exposure to rising levels of supply, increasing tax and insurance expenses, and slowing inbound migration.

Upside risks to our PO are positive suburban trends, less of an impact from supply on fundamentals, and long-term demand in the Sunbelt.

## **Analyst Certification**

I, Joshua Dennerlein, 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.

## US - REITs Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
<b>BUY</b>				
	Agree Realty Corp	ADC	ADC US	Joshua Dennerlein
	Alexandria Real Estate Equities	ARE	ARE US	Joshua Dennerlein
	American Healthcare REIT Inc.	AHR	AHR US	Joshua Dennerlein
	American Homes 4 Rent	AMH	AMH US	Jeffrey Spector
	Americold Realty Trust	COLD	COLD US	Joshua Dennerlein
	AvalonBay Communities Inc	AVB	AVB US	Joshua Dennerlein
	Boston Properties	BXP	BXP US	Jeffrey Spector
	Brixmor Property Group	BRX	BRX US	Jeffrey Spector
	COPT Defense Properties	CDP	CDP US	Camille Bonnel
	Cousins Properties Inc.	CUZ	CUZ US	Camille Bonnel
	EastGroup Properties	EGP	EGP US	Jeffrey Spector
	Empire State Realty Trust	ESRT	ESRT US	Camille Bonnel
	Equity Residential	EQR	EQR US	Jeffrey Spector
	Essential Properties	EPRT	EPRT US	Joshua Dennerlein
	Federal Realty	FRT	FRT US	Jeffrey Spector
	Invitation Homes Inc	INVH	INVH US	Joshua Dennerlein
	Kimco Realty	KIM	KIM US	Jeffrey Spector
	Kite Realty Group	KRG	KRG US	Jeffrey Spector
	Phillips Edison & Company	PECO	PECO US	Jeffrey Spector
	Prologis, Inc.	PLD	PLD US	Camille Bonnel
	Public Storage, Inc.	PSA	PSA US	Jeffrey Spector
	Regency	REG	REG US	Jeffrey Spector
	Rexford Industrial Realty	REXR	REXR US	Camille Bonnel
	Sabra Health Care	SBRA	SBRA US	Joshua Dennerlein
	Simon Property	SPG	SPG US	Jeffrey Spector
	Ventas, Inc.	VTR	VTR US	Jeffrey Spector
	Welltower	WELL	WELL US	Joshua Dennerlein
<b>NEUTRAL</b>				
	Acadia Realty Trust	AKR	AKR US	Jeffrey Spector
	CubeSmart	CUBE	CUBE US	Jeffrey Spector
	EPR Properties	EPR	EPR US	Joshua Dennerlein
	Equity LifeStyle Properties	ELS	ELS US	Jeffrey Spector
	Essex Property Trust, Inc.	ESS	ESS US	Joshua Dennerlein
	Extra Space Storage, Inc.	EXR	EXR US	Jeffrey Spector
	Getty Realty Corp.	GTY	GTY US	Joshua Dennerlein
	Highwoods Properties	HIW	HIW US	Camille Bonnel
	InvenTrust Properties	IVT	IVT US	Jeffrey Spector
	Kilroy Realty Corporation	KRC	KRC US	Camille Bonnel
	Macerich	MAC	MAC US	Jeffrey Spector
	OMEGA Healthcare	OHI	OHI US	Joshua Dennerlein
	Realty Income	O	O US	Jeffrey Spector
	Retail Opportunity Investments Corp.	ROIC	ROIC US	Jeffrey Spector
	SL Green Realty	SLG	SLG US	Camille Bonnel
	Sun Communities	SUI	SUI US	Joshua Dennerlein
	UDR, Inc.	UDR	UDR US	Joshua Dennerlein
	Veris Residential Inc	VRE	VRE US	Joshua Dennerlein
	Vornado Realty	VNO	VNO US	Camille Bonnel
<b>UNDERPERFORM</b>				
	American Assets Trust	AAT	AAT US	Camille Bonnel
	Armada Hoffer Properties	AHH	AHH US	Camille Bonnel
	Camden Property Trust	CPT	CPT US	Joshua Dennerlein
	Douglas Emmett	DEI	DEI US	Camille Bonnel
	Healthpeak Properties, Inc.	DOC	DOC US	Joshua Dennerlein
	Hudson Pacific Properties, Inc.	HPP	HPP US	Camille Bonnel
	Kennedy Wilson	KW	KW US	Joshua Dennerlein
	LXP Industrial Trust	LXP	LXP US	Camille Bonnel
	Medical Properties Trust, Inc.	MPW	MPW US	Joshua Dennerlein
	Mid-America Apartment Communities, Inc.	MAA	MAA US	Joshua Dennerlein
	National Storage Affiliates Trust	NSA	NSA US	Jeffrey Spector
	NetSTREIT	NTST	NTST US	Joshua Dennerlein
	NNN REIT Inc	NNN	NNN US	Joshua Dennerlein
	Paramount Group	PGRE	PGRE US	Camille Bonnel
	Peakstone Realty Trust	PKST	PKST US	Joshua Dennerlein

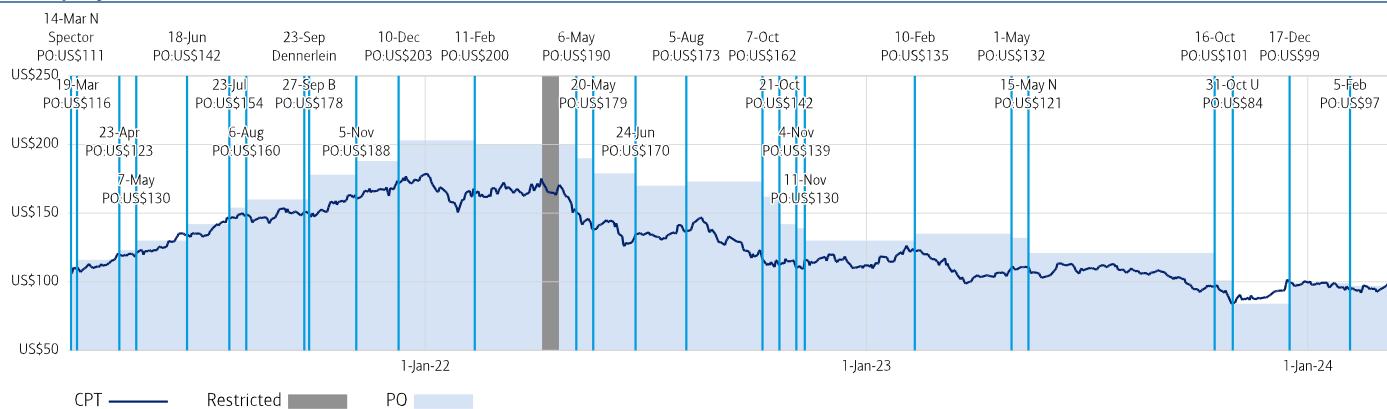
## US - REITs Coverage Cluster

Investment rating	Company	BoFA Ticker	Bloomberg symbol	Analyst
	STAG Industrial	STAG	STAG US	Camille Bonnel
	Tanger Inc	SKT	SKT US	Jeffrey Spector
	WP Carey	WPC	WPC US	Joshua Dennerlein

## Disclosures

## Important Disclosures

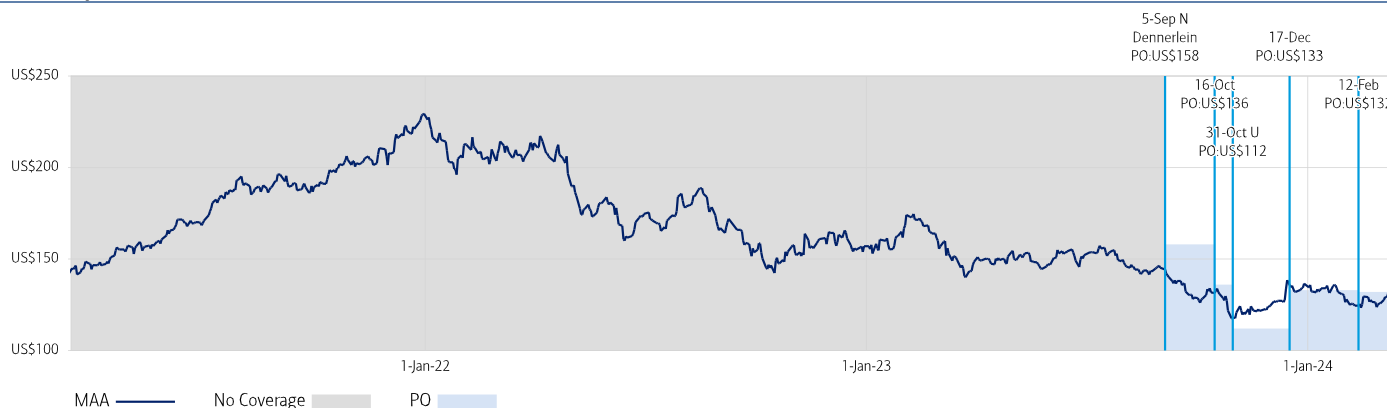
## Camden Property (CPT) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

## Mid-America Ap (MAA) Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading "Fundamental Equity Opinion Key". Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of a date no more than one trading day prior to the date of the report.

## Equity Investment Rating Distribution: REITs (Real Estate Investment Trusts) Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	Count	Percent
Buy	40	46.51%	Buy	33	82.50%
Hold	27	31.40%	Hold	21	77.78%
Sell	19	22.09%	Sell	16	84.21%

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

Coverage Universe	Count	Percent	Inv. Banking Relationships <sup>R1</sup>	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%

<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.

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: Camden Property, Mid-America Ap.

BofAS or an affiliate was a manager of a public offering of securities of this issuer within the last 12 months: Camden Property.

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

BofAS or an affiliate has received compensation from the issuer for non-investment banking services or products within the past 12 months: Camden Property, Mid-Amer Apt.

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: Camden Property, Mid-Amer Apt.

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

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: Camden Property.

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: Camden Property, Mid-America Ap.

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: Camden Property, Mid-Amer Apt.

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.bofamli.com/BofASEdisclaimer](http://www.bofamli.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 (HKSF); 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 HKSF; 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:

Copyright 2024 Bank of America Corporation. All rights reserved. iQDatabase® is a registered service mark of Bank of America Corporation. This information is prepared for the use of BofA Securities clients and may not be redistributed, retransmitted or disclosed, in whole or in part, or in any form or manner, without the express written consent of BofA Securities. BofA Global Research information is distributed simultaneously to internal and client websites and other portals by BofA Securities and is not publicly-available material. Any unauthorized use or disclosure is prohibited. Receipt and review of this information constitutes your agreement not to redistribute, retransmit, or disclose to others the contents, opinions, conclusion, or information contained herein (including any investment recommendations, estimates or price targets) without first obtaining express permission from an authorized officer of BofA Securities.

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 or 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 purchases of securities or financial instruments that are Restricted or Under Review and may only solicit securities under Extended Review in accordance with firm policies.

Neither BofA Securities nor any officer or employee of BofA Securities accepts any liability whatsoever for any direct, indirect or consequential damages or losses arising from any use of this information.

## Research Analysts

---

**Jeffrey Spector**

Research Analyst

BofAS

[jeff.spector@bofa.com](mailto:jeff.spector@bofa.com)

**Joshua Dennerlein**

Research Analyst

BofAS

[joshua.dennerlein@bofa.com](mailto:joshua.dennerlein@bofa.com)

**Camille Bonnel** >>

Research Analyst

Merrill Lynch (Canada)

[camille.bonnel@bofa.com](mailto:camille.bonnel@bofa.com)

**Daniel Byun**

Research Analyst

BofAS

[daniel.byun@bofa.com](mailto:daniel.byun@bofa.com)

**Lizzy Doykan**

Research Analyst

BofAS

[lizzy.doykan@bofa.com](mailto:lizzy.doykan@bofa.com)

**Steven Song**

Research Analyst

BofAS

[huainan.song@bofa.com](mailto:huainan.song@bofa.com)

**Farrell Granath**

Research Analyst

BofAS

[farrell.granath@bofa.com](mailto:farrell.granath@bofa.com)

**Andrew Berger**

Research Analyst

BofAS

[andrew.berger2@bofa.com](mailto:andrew.berger2@bofa.com)

>> Employed by a non-US affiliate of BofAS and is not registered/qualified as a research analyst under the FINRA rules. Refer to "Other Important Disclosures" for information on certain BofA Securities entities that take responsibility for the information herein in particular jurisdictions.