

Small/Mid-Cap Valuations

Small caps still cheap after 4Q rally

Small Cap

Multiple expansion drove returns in 2023

P/E ratios expanded across size segments to their highest levels since early 2022 following December's rally. The Russell 2000 forward P/E climbed to 14.7x from 13.5x, the Russell MidCap P/E climbed to 17.2x from 16.0x and the Russell 1000 P/E climbed to 19.7x from 18.8x. But small caps remain the only size segment that is historically cheap, trading 3% below their long-term avg. P/E vs. 27% above avg. for large caps and 13% above for mid caps. And while the relative P/E of the Russell 2000 vs. Russell 1000 also expanded last month to 0.75 from 0.72, it is essentially flat from where it started the year given similar P/E expansion in both small and large caps (+18%/+17%), and remains 25% below its historic avg. For long-term investors (where P/E is more predictive over a 10yr horizon than near term), valuations today imply a particularly attractive backdrop for the Russell 2000: 10% annualized returns over the next decade vs. 3% for the Russell 1000.

Value vs. Growth still cheap despite recent re-rating

Despite bigger expansion for Value relative to Growth in December, small cap Value is still historically cheap: the Russell 2000 Value index trades at a historical discount to the Growth index on four of the six metrics we track, by an average discount of ~9%, where the forward P/E currently trades at 17% discount. For the full year, Growth saw greater multiple expansion than Value across all three size segments, particularly large and mid (relative P/E +18% for each, vs. +9% in small caps). Moreover, Value aligns more with our preference for Quality within small caps – fewer non-earners (34% vs. 37%) and there are more B+ or better stocks by S&P Quality Rank (20% vs. 14%) in R2V vs. R2G.

Small cap sectors: Financials rank #1, Utilities last

Based on our small cap quantitative sector ranks (which rank sectors on relative valuation, estimate revisions, technicals and BofA analyst upgrades-downgrades), Financials continues to rank #1, while Energy dropped to second given deterioration in its revisions rank. Utilities now ranks last given deteriorations in revisions and momentum ranks; Real Estate and Tech (previously tied for last) still rank in the bottom three. Staples saw the biggest decline in rank, moving to #8 from #5 given to worsening BofA sentiment and momentum ranks.

08 January 2024

Small Cap Research
United States

Jill Carey Hall, CFA
Equity & Quant Strategist
BofAS
+1 646 855 3327
jill.carey@bofa.com

Nicolas Woods
Equity & Quant Strategist
BofAS
+1 646 556 4179
nicolas.woods_barron@bofa.com

Trading ideas and investment strategies discussed herein may give rise to significant risk and are not suitable for all investors. Investors should have experience in relevant markets and the financial resources to absorb any losses arising from applying these ideas or strategies.

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 11 to 12.

12642272

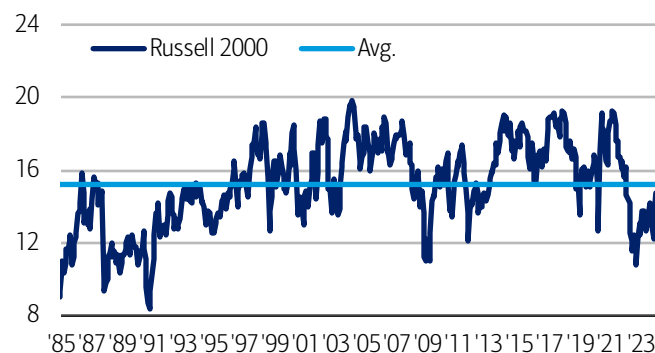
Timestamp: 08 January 2024 12:01AM EST

Small/mid cap valuations

Russell 2000 and Russell Midcap valuations at-a-glance

Exhibit 1: Small cap forward P/E below the long-term average

Russell 2000 Forward P/E, 1985-12/31/2023

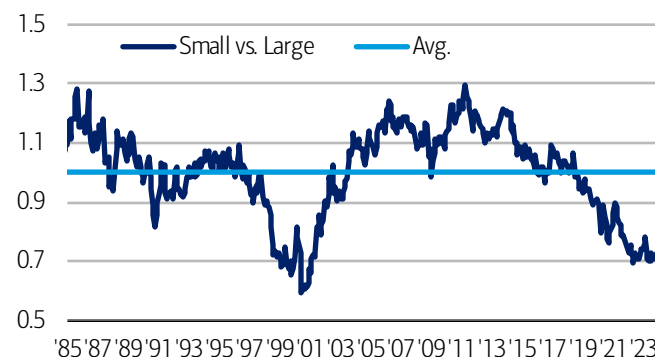


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 2: Small caps remain historically cheap vs large caps

Relative Forward P/E: Russell 2000 vs Russell 1000, 1985-12/31/2023

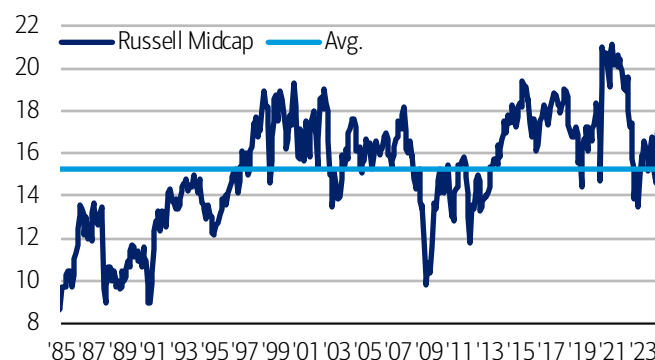


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 3: Mid-caps trade above long-term average

Russell Midcap Forward P/E, 1985-12/31/2023

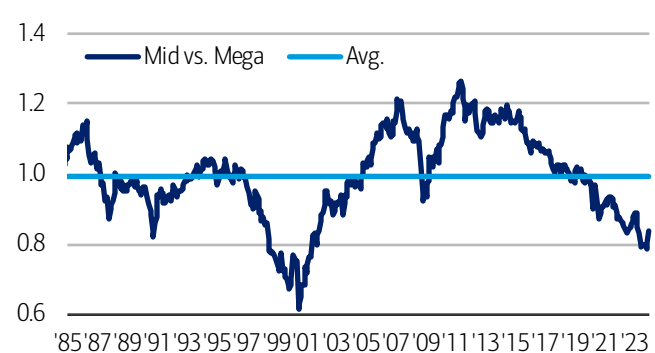


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 4: Mid-caps remain historically inexpensive vs mega caps

Relative Forward PE of Russell Midcap vs Russell Top 200, 1985-12/31/2023

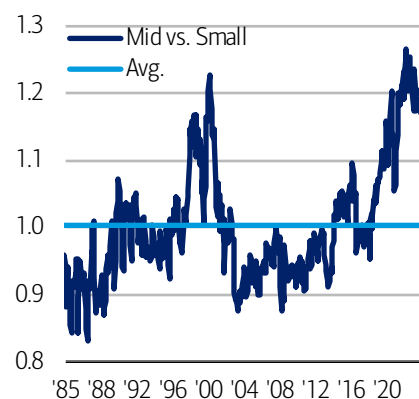


Source: BofA US Equity & Quant Strategy, FactSet.

BofA GLOBAL RESEARCH

Exhibit 5: Mid-caps trade at a near record premium to small caps

Relative Forward PE of Russell Midcap vs Russell 2000, 1985-12/31/2023

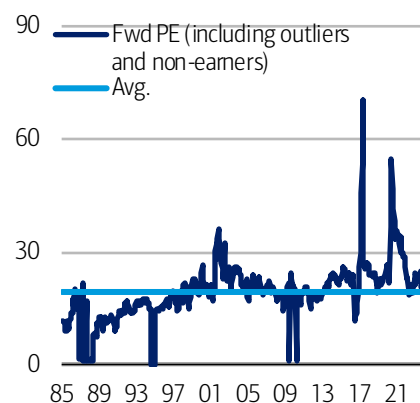


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 6: Small cap forward P/E including non-earners is slightly above average

Russell 2000 Forward P/E (including outliers & non-earners), 1985-12/30/2023

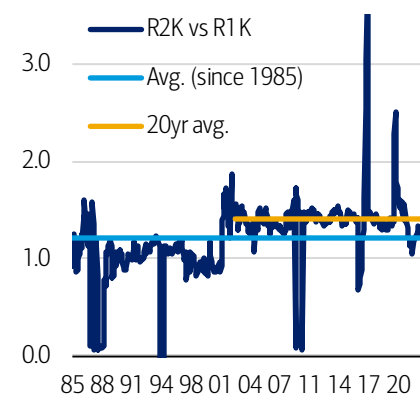


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 7: Small caps trade slightly above avg. vs large caps on the Fwd. P/E including outliers & non-earners

Relative Forward P/E (including outliers), 1985-12/31/2023



Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 8: Small caps trade below average on most metrics

Absolute valuations for the Russell 2000 (1/31/1985-12/31/2023)

Valuation Metric	Absolute Valuation			% Difference From			
	As of Dec-23	Max	Min	Long-Term Average		Long-Term Average	
				Max	Min	Max	Min
Trailing P/E	15.9	24.3	10.4	18.1	-35%	53%	-12%
Forward P/E	14.7	19.8	8.4	15.2	-26%	76%	-3%
Price/Book	2.08	2.90	1.12	2.05	-28%	85%	2%
Price/Sales	1.58	2.21	0.40	1.18	-28%	292%	33%
P/E To Growth	1.11	2.09	0.53	0.99	-47%	109%	12%
Enterprise Value to FCF	16.1	24.8	9.2	17.6	-35%	76%	-8%

Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 9: Small caps trade at a historical discount vs large on all metrics we track

Relative valuations for the Russell 2000 vs the Russell 1000 (1/31/1985-12/31/2023)

Valuation Metric	Relative Valuation			% Difference From			
	As of Dec-23	Max	Min	Long-Term Average		Long-Term Average	
				Max	Min	Max	Min
Trailing P/E	0.66	1.27	0.54	1.00	-48%	22%	-34%
Forward P/E	0.75	1.30	0.59	1.00	-42%	26%	-25%
Price/Book	0.47	1.11	0.44	0.75	-57%	7%	-37%
Price/Sales	0.53	1.02	0.43	0.74	-48%	21%	-29%
P/E To Growth	0.62	1.07	0.49	0.77	-42%	28%	-20%
Enterprise Value to FCF	0.64	1.22	0.56	0.84	-47%	14%	-23%

Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 10: Mid-caps trade above history across most metrics

Absolute valuations for the Russell Midcap (1/31/1985-12/31/2023)

Valuation Metric	Absolute Valuation			% Difference From			
	As of Dec-23	Max	Min	Long-Term Average		Long-Term Average	
				Max	Min	Max	Min
Trailing P/E	20.3	26.6	10.4	18.3	-24%	95%	11%
Forward P/E	17.2	21.1	9.0	15.3	-18%	92%	13%
Price/Book	3.03	3.73	1.31	2.41	-19%	131%	26%
Price/Sales	2.08	2.96	0.56	1.39	-30%	272%	49%
P/E To Growth	1.56	3.02	0.76	1.24	-48%	105%	25%
Enterprise Value to FCF	22.7	26.5	9.3	19.7	-14%	143%	15%

Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 11: Mid-caps trade at a discount to mega caps on all metrics

Relative valuations for Russell Midcap vs the Russell Top 200 (1/31/1985-12/31/2023)

Valuation Metric	Relative Valuation			% Difference From			
	As of Dec-23	Max	Min	Long-Term Average		Long-Term Average	
				Max	Min	Max	Min
Trailing P/E	0.80	1.29	0.56	0.99	-38%	43%	-19%
Forward P/E	0.84	1.26	0.61	0.99	-34%	36%	-16%
Price/Book	0.59	1.06	0.46	0.81	-45%	28%	-28%
Price/Sales	0.59	1.06	0.47	0.78	-44%	25%	-25%
P/E To Growth	0.84	1.57	0.61	0.94	-46%	37%	-11%
Enterprise Value to FCF	0.79	1.27	0.46	0.92	-38%	69%	-14%

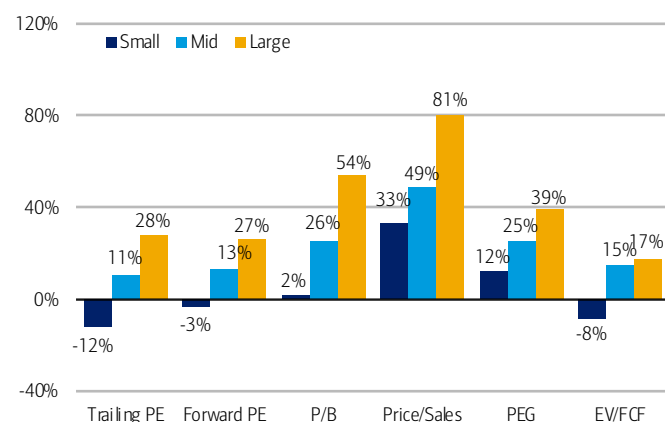
Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 12: Small caps least expensive vs history on half of metrics except Price/Sales, PEG and P/B

Russell 2000, Russell Midcap and Russell 1000: Valuation premium (discount) vs history across metrics (1/31/1985-12/31/2023)

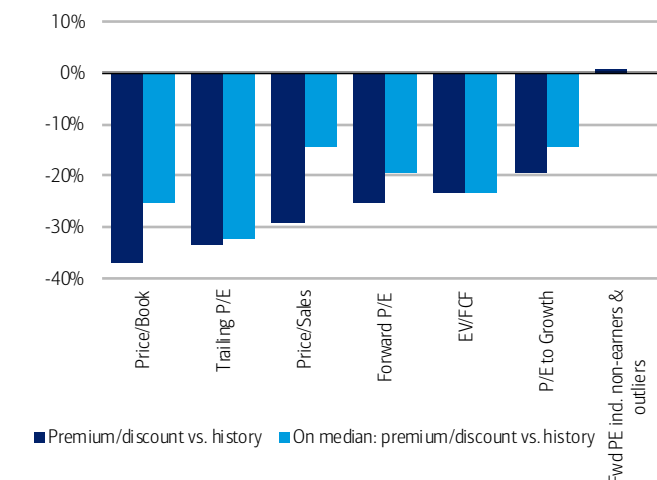


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 13: Small vs large: cheap vs history most metrics

Russell 2000 vs Russell 1000 valuations vs history (1985-12/31/2023)



Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Growth vs Value valuations

- Within small caps, Growth trades at a historical premium to Value on four of the six metrics we track.
- In mid-caps, Growth trades at a premium to Value on five of the six metrics.

Exhibit 14: Small cap Growth is broadly expensive vs Value

Relative valuations for the Russell 2000 Growth vs the Russell 2000 Value (1/31/1985-12/31/2023)

Valuation Metric	Relative Valuation			% Difference From		
	As of Dec-	23	Max	Long Term Average		Long Term Average
				Min	Max	
Trailing P/E	1.83	2.18	1.08	1.41	-16%	70%
Forward P/E	1.56	2.34	1.06	1.34	-33%	48%
Price/Book	3.12	3.94	1.66	2.42	-21%	88%
Price/Sales	1.68	4.39	1.29	1.90	-62%	30%
P/E To Growth	0.55	1.70	0.26	0.77	-67%	109%
Enterprise Value to FCF	1.70	2.45	1.10	1.44	-31%	55%

Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 15: Mid-cap Growth is broadly expensive vs Value

Relative valuations for the Russell Midcap Growth vs the Russell Midcap Value (3/31/1985-12/31/2023)

Valuation Metric	Relative Valuation			% Difference From		
	As of Dec-	23	Max	Long-Term Average		Long-Term Average
				Min	Max	
Trailing P/E	1.83	3.21	1.04	1.51	-43%	75%
Forward P/E	1.66	3.37	1.07	1.44	-51%	55%
Price/Book	4.42	5.41	1.74	2.66	-18%	154%
Price/Sales	2.19	6.07	1.24	1.92	-64%	77%
P/E To Growth	0.91	1.40	0.54	0.82	-35%	68%
Enterprise Value to FCF	1.52	3.15	1.07	1.55	-52%	42%

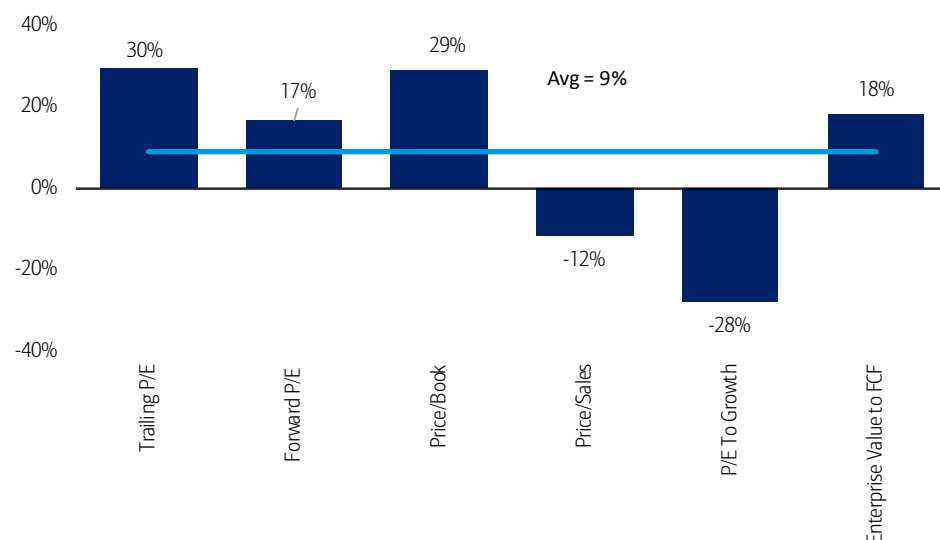
Note: P/E measures exclude negative earnings. Forward P/E is on I/B/E/S consensus N12m forecast earnings. EV/FCF excludes negative FCF.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 16: Small cap Growth is historically expensive vs Value on four of the six metrics we track

Relative premium (discount) to the historical average multiple for Russell 2000 Growth vs Russell 2000 Value (1985-12/31/2023)



Source: FactSet, BofA US Equity & US Quant Strategy

BofA GLOBAL RESEARCH

Exhibit 17: Profits cycle accelerations positive for Value vs. Growth, particularly within small caps

Avg. annualized quarterly performance of Growth vs. Value (based on Fama French data) in periods of accelerating vs. decelerating corporate profits, 1925-present

	Small Value	Small Growth	Relative	Large Value	Large Growth	Relative
Accelerating Profits	24%	13%	10%	19%	13%	6%
Decelerating Profits	14%	12%	2%	12%	10%	2%

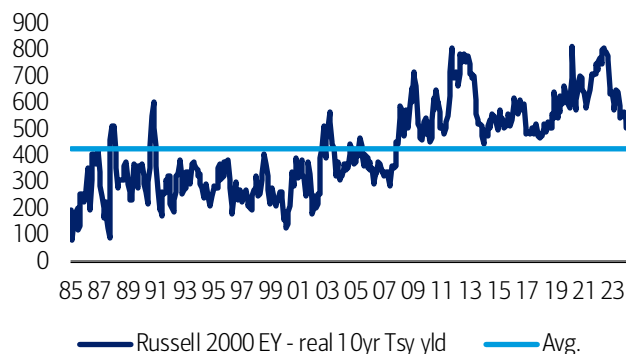
Source: FactSet, Fama French (https://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html), BofA US Equity & US Quant Strategy

BofA GLOBAL RESEARCH

Other small cap valuation charts

Exhibit 18: Small cap equity risk premium remains well above history

Russell 2000 forward earnings yield – real 10-year Treasury yield (1985-12/2023)



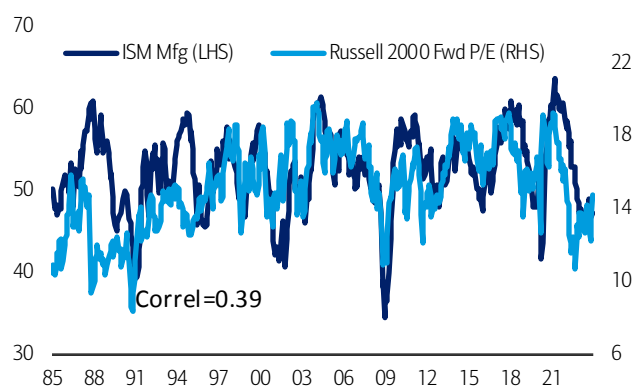
Source: FactSet, Bloomberg, BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

Macro: what's priced in?

Exhibit 20: Small cap valuations correlated with ISM, pricing in ISM of 50

Russell 2000 Fwd P/E (LHS) vs ISM Mfg. Index (RHS), 1985-12/2023

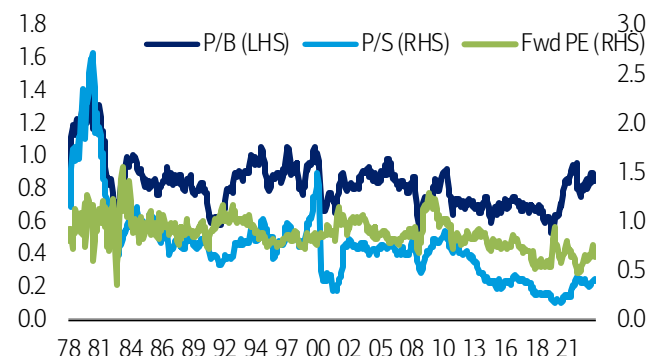


Source: Haver Analytics, BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

Exhibit 19: Small cap cyclicals: relatively cheap vs defensives on P/E and sales, less so on book

Relative median valuation of Russell 2000 cyclical vs defensive sectors (1978-12/2023)

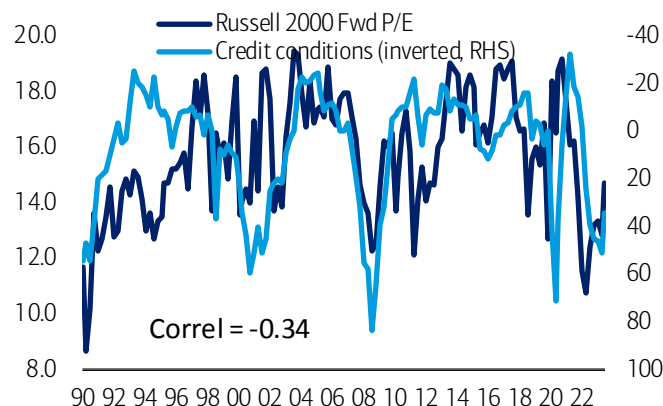


Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 21: Small cap valuations also correlated with credit conditions, discounting further tightening in the SLOOS

Russell 2000 Fwd P/E (LHS) vs Senior Loan Officer Opinion Survey (SLOOS) net % tightening loans (RHS, inverted), 1990-12/2023



Source: Haver Analytics, BofA US Equity & Quant Strategy

BofA GLOBAL RESEARCH

Sector valuations

Small cap sector valuations: absolute and relative to large caps

- Small cap **Energy** and **Financials** screen as broadly the most **inexpensive** vs history (trading at a discount to the historical relative multiple on most of the six metrics we track).
- Small cap **Tech** and **Industrials** screen as broadly the most **expensive** vs history (trading at a premium on all of the six metrics we track).
- Relative to their large caps peers, most of small caps sectors trade at a discount on a majority of metrics we track, except for **Staples**.

Exhibit 22: Relative median valuations for Russell 2000 sectors versus the benchmark as of 12/31/2023

	Relative (vs R2000) median valuation						Long-term median (since 1985)						% difference from long-term median					
	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**
Russell 2000	1.28	1.96	2.00	14.7	13.9	19.39	1.03	1.58	2.01	17.6	14.7	21.60	24%	24%	0%	-17%	-5%	-10%
Comm Svcs	1.38	0.61	0.98	1.52	1.38	0.90	1.23	0.92	1.32	1.31	1.35	1.11	13%	-33%	-25%	16%	2%	-19%
Discretionary	1.23	0.41	1.11	1.12	1.02	0.81	0.91	0.46	1.00	0.98	0.96	0.96	35%	-12%	10%	14%	6%	-15%
Energy	0.26	0.67	0.66	0.58	0.60	0.73	1.07	1.21	0.88	1.05	1.04	0.94	-76%	-45%	-25%	-44%	-42%	-23%
Financials	0.80	1.09	0.59	0.74	0.81	N/A	1.15	1.32	0.68	0.79	0.82	N/A	-31%	-17%	-14%	-7%	-1%	N/A
Health Care	1.57	4.39	1.49	2.19	1.66	1.07	1.00	2.84	1.71	1.49	1.33	1.27	57%	55%	-13%	47%	24%	-16%
Industrials	1.10	0.59	1.11	1.55	1.17	1.03	1.01	0.52	1.02	1.04	1.02	0.97	10%	13%	9%	49%	15%	7%
Materials	1.46	0.61	0.84	1.17	0.97	0.98	1.14	0.52	0.93	0.96	0.92	0.99	29%	18%	-10%	22%	6%	-1%
Real Estate	1.57	2.01	0.67	0.81	0.86	0.53	1.88	2.37	0.78	0.75	0.81	0.78	-17%	-15%	-14%	8%	6%	-31%
Staples	1.69	0.43	1.12	1.34	1.51	1.02	1.22	0.43	1.08	1.07	1.11	1.11	38%	-2%	4%	25%	36%	-8%
Technology	1.00	1.49	1.86	1.71	1.83	1.41	0.97	1.29	1.23	1.43	1.24	1.02	3%	16%	51%	19%	47%	38%
Utilities	1.80	1.32	1.04	1.35	1.11	1.97	2.83	0.84	0.83	0.93	0.98	1.04	-36%	58%	25%	46%	13%	89%

*Trailing and forward P/E excludes negative earners; **EV/FCF excludes Financials and Real Estate as well as companies with negative free cash flow.

Note: NA values due to negative median, data since 1985 except for Real Estate (since 2001). FFO is used instead of EPS for REITs.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 23: Relative median valuations for the Russell 2000 vs Russell 1000 sectors as of 12/31/2023

	Relative median valuation						Long-term median (since 1985)						% difference from long-term median					
	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**
R 2000/R 1000	0.68	0.78	0.58	0.7	0.8	0.68	0.80	0.91	0.78	1.0	1.0	0.88	-14%	-14%	-25%	-32%	-20%	-23%
Comm Svcs	1.05	0.51	0.58	0.84	1.05	0.73	0.87	0.73	0.95	1.05	1.06	0.93	21%	-31%	-39%	-21%	-1%	-21%
Discretionary	0.86	0.51	0.45	0.80	0.81	0.66	0.85	0.66	0.66	0.94	0.92	0.81	1%	-23%	-32%	-15%	-11%	-19%
Energy	0.09	0.72	0.59	0.87	0.79	0.97	0.78	1.01	0.83	1.01	1.00	0.77	-88%	-29%	-29%	-14%	-21%	25%
Financials	0.94	1.05	0.62	0.77	0.99	N/A	1.04	1.12	0.91	1.02	1.03	N/A	-10%	-6%	-32%	-25%	-3%	N/A
Health Care	0.88	2.11	0.68	0.95	1.15	0.66	0.88	1.65	0.88	1.10	1.17	1.01	0%	28%	-22%	-14%	-1%	-35%
Industrials	0.70	0.54	0.50	0.91	0.81	0.70	0.82	0.69	0.71	0.97	0.98	0.85	-14%	-22%	-31%	-6%	-17%	-18%
Materials	0.70	0.75	0.63	0.77	0.77	0.70	0.79	0.72	0.74	0.93	0.93	0.80	-11%	4%	-15%	-17%	-18%	-12%
Real Estate	0.42	0.53	0.64	0.76	0.77	0.19	0.91	0.74	0.73	0.86	0.86	0.74	-54%	-29%	-12%	-12%	-11%	-74%
Staples	0.99	0.57	0.64	0.85	1.21	0.70	0.79	0.55	0.56	0.97	1.02	0.85	25%	4%	13%	-12%	18%	-18%
Technology	0.50	0.49	0.53	0.73	0.91	0.75	0.86	0.73	0.72	0.98	1.00	0.93	-42%	-33%	-26%	-25%	-10%	-20%
Utilities	0.86	1.19	1.21	1.07	0.97	0.89	1.03	0.92	1.01	1.09	1.08	0.96	-17%	30%	19%	-2%	-10%	-7%

*Trailing and forward P/E excludes negative earners; **EV/FCF excludes Financials and Real Estate as well as companies with negative free cash flow.

Note: NA values due to negative median, data since 1985 except for Real Estate (since 2001). FFO is used instead of EPS for REITs.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH



Mid-cap sector valuations: absolute and relative to small

- Within mid-caps, **Energy** and **Financials** screen as the most broadly **inexpensive** vs history across all metrics we track.
- **Technology**, **Industrials** and **Health Care** screen as broadly the most **expensive** vs history (trading at a premium on most metrics we track).
- Most **mid-cap sectors** except **Staples** are trading at a **premium vs their small cap peers** across a majority of metrics.

Exhibit 24: Relative median valuations for Russell Midcap sectors versus the benchmark
as of 12/31/2023

Relative (vs benchmark) median valuation										Long-term median (since 1985)			% difference from long-term median					
	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**
Russell																		
Midcap	1.87	2.31	3.09	21.0	16.8	28.63	1.24	1.65	2.54	18.6	15.3	23.66	51%	40%	21%	12%	10%	21%
Comm Svcs	1.08	1.07	1.10	1.29	1.08	0.97	1.23	1.33	1.28	1.20	1.29	1.03	-13%	-19%	-14%	7%	-16%	-6%
Discretionary	0.97	0.58	1.28	0.93	0.99	0.80	0.87	0.69	1.26	0.99	1.01	1.00	12%	-16%	1%	-6%	-2%	-20%
Staples	1.12	0.49	0.91	1.08	1.00	0.99	1.24	0.58	1.39	1.09	1.09	1.11	-10%	-16%	-35%	-1%	-8%	-10%
Energy	0.24	0.76	0.71	0.42	0.62	0.60	1.07	1.11	0.87	1.14	1.11	1.19	-78%	-32%	-19%	-63%	-44%	-50%
Financials	0.57	0.88	0.59	0.63	0.66	N/A	0.90	1.11	0.67	0.75	0.80	N/A	-37%	-21%	-11%	-15%	-17%	N/A
Health Care	1.28	1.73	1.31	1.78	1.25	1.18	0.94	1.58	1.48	1.37	1.21	1.18	37%	9%	-11%	30%	4%	0%
Industrials	1.01	0.94	1.40	1.21	1.20	0.97	0.98	0.73	1.15	1.08	1.04	1.00	3%	28%	22%	12%	15%	-3%
Materials	1.55	0.60	0.84	0.83	0.93	0.92	1.13	0.64	1.01	0.99	0.95	1.07	37%	-7%	-17%	-17%	-2%	-13%
Real Estate	2.48	3.21	0.66	0.73	0.91	N/A	1.79	3.05	0.80	0.82	0.93	N/A	38%	5%	-17%	-11%	-2%	N/A
Technology	1.35	2.15	1.93	1.57	1.61	1.30	0.90	1.61	1.35	1.44	1.25	1.04	50%	34%	43%	9%	29%	25%
Utilities	1.43	0.90	0.56	0.89	0.94	1.50	2.17	0.85	0.67	0.82	0.92	1.53	-34%	6%	-17%	9%	3%	-2%

*Trailing and forward P/E excludes negative earners; **EV/FCF excludes Financials and Real Estate as well as companies with negative free cash flow.

Note: Data since 1985 except for Real Estate (since 2001). FFO is used instead of EPS for REITs.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 25: Relative median valuations for the Russell Midcap vs Russell 2000 sectors
as of 11/30/2023

Relative median valuation							Long-term median (since 1985)						% difference from long-term median					
	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E*	EV/FCF**	PEG	P/Sales	P/BV	Trail P/E*	Fwd P/E	EV/FCF**
R. Mid/R.																		
2000	1.47	1.18	1.54	1.43	1.21	1.48	1.23	1.05	1.23	1.01	1.00	1.11	20%	12%	26%	41%	21%	33%
Comm Svcs	1.14	2.06	1.73	1.21	0.95	1.60	1.23	1.36	1.10	0.98	1.03	1.03	-7%	52%	57%	23%	-7%	55%
Discretionary	1.16	1.67	1.78	1.19	1.19	1.46	1.17	1.50	1.47	1.06	1.08	1.19	-1%	11%	21%	12%	9%	22%
Staples	0.97	1.34	1.24	1.15	0.80	1.44	1.21	1.44	1.49	1.03	0.96	1.14	-20%	-7%	-17%	12%	-16%	26%
Energy	1.37	1.33	1.67	1.02	1.26	1.20	1.20	1.06	1.20	1.08	1.08	1.31	14%	26%	39%	-5%	16%	-8%
Financials	1.04	0.95	1.55	1.22	0.99	N/A	0.98	0.92	1.09	0.98	0.99	N/A	7%	4%	42%	24%	0%	N/A
Health Care	1.20	0.46	1.36	1.16	0.91	1.63	1.12	0.53	1.06	0.94	0.90	1.03	6%	-13%	28%	23%	2%	59%
Industrials	1.34	1.87	1.95	1.11	1.24	1.38	1.19	1.37	1.38	1.05	1.02	1.16	12%	36%	42%	6%	22%	19%
Materials	1.55	1.16	1.56	1.01	1.17	1.39	1.26	1.37	1.31	1.03	1.06	1.22	23%	-15%	19%	-2%	10%	13%
Real Estate	2.32	1.88	1.53	1.28	1.28	N/A	1.09	1.32	1.33	1.14	1.15	N/A	113%	43%	15%	12%	12%	N/A
Technology	1.98	1.69	1.61	1.31	1.06	1.36	1.13	1.31	1.31	1.03	1.00	1.10	75%	30%	23%	26%	7%	24%
Utilities	1.17	0.80	0.83	0.94	1.03	1.12	0.97	1.06	0.98	0.93	0.93	1.03	21%	-25%	-16%	2%	10%	9%

*Trailing and forward P/E excludes negative earners; **EV/FCF excludes Financials and Real Estate as well as companies with negative free cash flow.

Note: NA values due to negative median, data since 1985 except for Real Estate (since 2001). FFO is used instead of EPS for REITs.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH



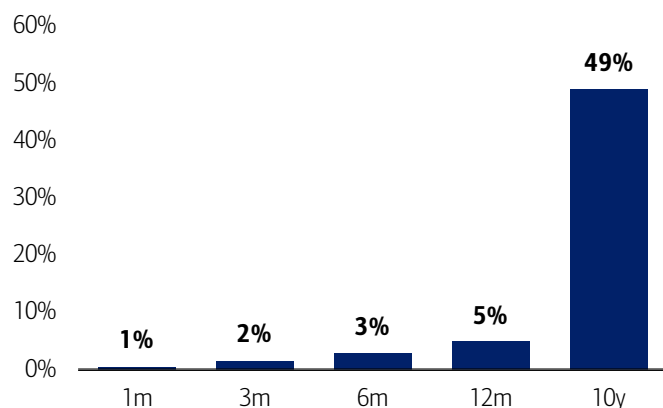
Valuations matter... over the long run

Our work suggests that valuation tends to be a poor short-term timing indicator, but it matters much more for long-term (10-year) returns. This also applies when looking at the relationship between relative small vs large cap valuations and subsequent relative returns (Exhibit 26), particularly at extremes.

Today, multiples in small caps suggest 10% annualized returns over the next 10 years vs 3% annualized returns for large caps (based on the historical regression of P/E vs subsequent returns for the Russell 2000 and Russell 1000 indices). The relative forward P/E multiple of the Russell 2000 vs Russell 1000 also suggests that small caps could outperform large caps over the next ten years (Exhibit 27).

Exhibit 26: Valuations have the highest explanatory power over long-term (ten-year) returns

R^2 of relative forward P/E vs subsequent return spread over various time horizons (since 1985): Russell 2000 vs Russell 1000, as of 12/31/2023

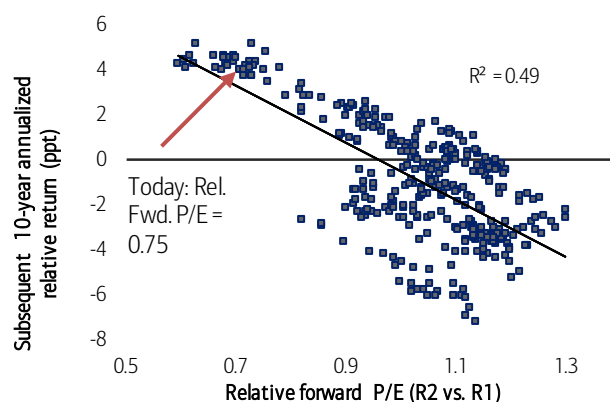


Note: Represents the relationship between the relative forward PE for the Russell 2000 vs the Russell 1000 (since 1979) and subsequent rolling returns differential. Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 27: Relative multiple suggests that small caps could outperform large caps over the next ten years

Relationship between relative fwd. P/E of Russell 2000 vs Russell 1000 and subsequent 10yr annualized relative returns, 1985–12/31/2023



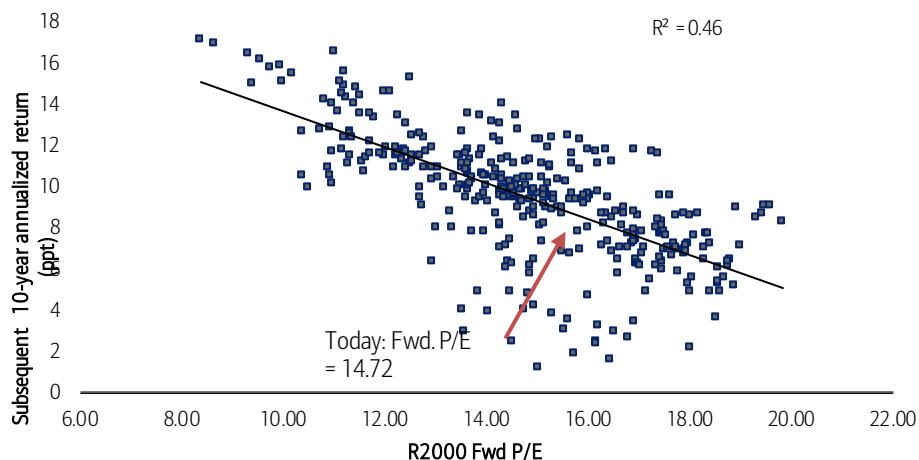
Note: Represents the relationship between the relative forward PE for the Russell 2000 vs the Russell 1000 (since 1979) and subsequent rolling 10-year annualized returns differential.

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Exhibit 28: The absolute forward P/E for the Russell 2000 suggests double-digit annualized ten-year returns

Russell 2000 forward P/E vs subsequent ten-year annualized returns, 1985-present (as of 12/31/23)



Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Small cap quantitative sector ranks

We provide an update to our quantitative small cap sector ranks, which we introduced in our [Small Cap Outlook 5 August 2018 report](#). These tactical ranks are based on four factors: (1) estimate revisions (one of the most alpha-generative small cap factors); (2) relative valuation vs history; (3) price momentum; and (4) BofA Global Research rating changes (BofA Sentiment), where we found that the net proportion of upgrades-downgrades in a sector by our analysts is positively correlated with subsequent returns, particularly over the short term. For more details on these ranks, please see the Appendix.

Ranks as of the latest month-end are presented in the table below (ranked highest at top to lowest at bottom).

- **Financials** ranks #1 and **Energy** now ranks #2 after ranking first last month.
- **Health Care** and **Tech** saw the biggest improvements in rank: HC moved to #7 from #5 and Tech moved to #9 from last.
- **Staples** saw the biggest downgrade in rank and now ranks #8 given to big deterioration in sentiment and momentum ranks. **Utilities** ranks last.

Exhibit 29: Financials ranks highest, Utilities lowest

Small cap quantitative sector ranks (11=highest, 1=lowest) as of 12/31/2023

Sector	Combined Rank (highest to lowest)	Valuation Rank	Revisions Rank	Momentum Rank	BofA Sentiment Rank
Financials	11	10	7	6	11
Energy	10	11	3	8	10
Communication Services	8	9	8	1	10
Industrials	8	3	11	11	3
Materials	6	6	5	4	10
Consumer Discretionary	6	7	2	9	7
Health Care	5	3	10	2	6
Consumer Staples	3	5	9	5	1
Information Technology	3	1	4	10	5
Real Estate	2	8	1	7	2
Utilities	1	1	6	3	4

Source: BofA US Equity & Quant Strategy, FactSet

BofA GLOBAL RESEARCH

Appendix

Methodology – small cap quantitative sector ranks

Our small cap quantitative sectors ranks, first introduced in our [Small Cap Outlook report](#) (5 August 2018), rank sectors from highest to lowest based on an average of four factors: valuation, estimate revisions, price momentum, and BofA analyst sentiment.

1) Valuation: Relative EV/FCF, Fwd P/E and P/S vs history

We compute the median relative multiple for each sector (vs the Russell 2000 median multiple) as of month-end and calculate how far above/below it is from its long-term median (since 1994). We do this on enterprise value (EV)/free cash flow (FCF), historically the best Value factor for selecting stocks within small caps, along with Forward P/E (the most generally applicable metric across sectors) and Price/Sales (to account for sectors that have negative earnings or FCF or for which FCF is not a meaningful metric). We compute the overall valuation rank by ranking sectors based on an average of their EV/FCF, Forward P/E, and Price/Sales ranks or as many of the three that are available/applicable. (Note: companies with negative FCF or earnings are excluded from the median calculations. For P/E, funds from operations (FFO) is used for real estate investment trusts (REITs). Financials and REITs are excluded from the EV/FCF ranks).

2) Fundamentals: Estimate revision ratios

We rank sectors from highest to lowest based on their three-month earnings estimate revision ratio (number of consensus estimates revised up vs number revised down within each sector each month, computed over a three-month period as of the latest month-end on the S&P 600 universe). Of the Growth factors we track, our work suggests that estimate revision factors are the best stock-selection factors.

3) Momentum: Change in the 200-day moving average

We rank sectors from highest to lowest based on the median one-month change in the 200-day moving average for the stocks in that sector as of the latest month-end, where this has historically been the best stock-selection measure among the momentum factors that we track.

4) BofA analyst sentiment: proportion of ratings upgrades-downgrades

Our work suggests that our BofA Global Research analysts' rating changes within the Russell 2000 are correlated with subsequent performance, particularly over the short term, and that this was true across nearly all sectors over each subsequent time period shown in the chart above. This was particularly true of ratings downgrades, and correlations were higher for our analysts' ratings changes than for the mean consensus analyst ratings change. We thus rank sectors from highest to lowest by the net proportion of ratings upgrades less downgrades (rolling three-month sum) as of the latest month-end.

Disclosures

Important Disclosures

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

Due to the nature of quantitative analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

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

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.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Lynch Global Wealth Management financial advisor for information relating to such instruments. 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 BofA 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 Lynch 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.bofam.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 prepared 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.

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.

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.