

Russell US Indexes Spotlight

QUARTERLY REPORT | APRIL 2024

Large-caps and Growth hold sway amid broad-based gains

A better-than-expected US economic growth outlook, more modest expectations for the timing and size of interest rate cuts, structural tailwinds from AI-related technologies and a rebound in oil prices provided the backdrop for equity performance in Q1 2024.

Large-cap leadership resumes

Russell 1000 outperformed Russell 2000 in Q1, after trailing the small-cap index in Q4 2023, helped by large-caps outpacing small-caps in several industries.

Growth continues to outpace Value

Both large-cap and small-cap Growth cohorts outperformed their Value counterparts in Q1, consistent with the 12-month trend.

EPS outlook stable for large-cap Growth, higher elsewhere

The EPS growth outlook improved for large-cap Value and both small-cap cohorts, while it declined modestly for large-cap Growth.

Dividend yields edge lower

Amid a broad-based rally, dividend yields edged lower over the quarter and 12 months. They are higher than the distressed levels seen in mid- to late-2021.

Valuation re-ratings continue

Forward P/Es re-rated across size and style cohorts, reflecting improved market sentiment as concerns over a hard economic landing abated.

Russell IPO inclusions pick up in small-caps

The Russell 2000 index included 6 new IPO names. Health Care dominated IPO inclusions for the Russell family of indices with 6 of 8 new names.

CONTENTS

Index Performance	2
Macro Drivers	3
Industry Returns & Weights	4-5
R1000 Sector Contributions	6
Earnings Growth Outlook	7-8
Dividend Yield	9
Valuation	10
IPO Additions	11
Return & Risk	12

AUTHORS

Mark Barnes PhD Head of Global Investment Research, Americas Mark.Barnes@Iseg.com

Indhu Raghavan, CFA Investment Research Writer Indhu.Raghavan@Iseg.com

Chart 1: The US 10-year yield rose in Q1 and R1000 Growth outpaced R1000 Value with the improving economic backdrop.

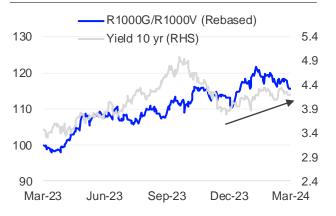


Chart 2: Oil rebounded in Q1, partly helped by supply-side constraints, lifting energy stocks.



Source: FTSE Russell and LSEG. Data as of March 31, 2024. Past performance is no guarantee of future results. This report should not be considered 'research' for the purposes of MIFID II. Please see the end for important legal disclosures. For professional investors only.

Index Performance

US stocks continued to rally in Q1. Better than anticipated Q4 economic growth (revised up to 3.4% year-on-year) and a stellar earnings season (especially for large-caps) bolstered US equities. Sustained optimism in AI technologies' promise to boost productivity provided an additional tailwind to related industries like chipmakers and chip equipment manufacturers.

In Q1 2024, large-caps outperformed their small-cap counterparts. This was a reversal from the broad-based, cyclical rally of Q4, when small-caps outshone large-caps. Similarly, small-cap Value, which led quarterly returns in Q4 lagged the most in Q1 with a 2.9% return.

The Growth cohorts in both the large-cap and small-cap segments outperformed the headline index and their Value counterparts in Q1. This was consistent with the 12-month trend. The Russell 1000 Growth and Russell 2000 Growth indices rose 11.4% and 7.6%, respectively, for the quarter (compared to 39.0% and 20.3% over 12 months). They were helped by higher weights in Technology and lower weights in defensives and Real Estate, which were challenged over the quarter.

Chart 1: Russell 1000 fared better than Russell 2000 in the Q1 equity rally. The large-cap and small-cap Growth indices outperformed their Value counterparts and respective headline indices.

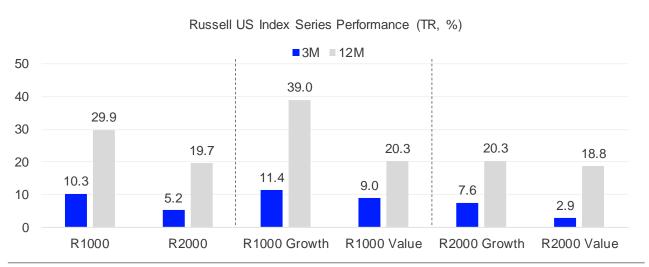
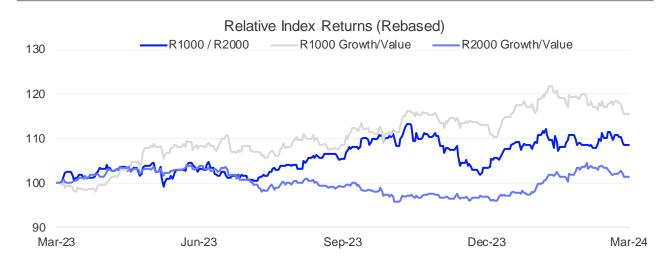


Chart 2: R1000 regained its edge over R2000 in Q1, in a reversal from Q4 2023, but consistent with 12-month performance. Similarly, the small-cap Value index once again lagged its Growth counterpart to push R2000 Growth to outperform over 12 months.



Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results.

2

Macro Drivers

After an "everything, everywhere" rally during the last two months of 2023, which was based primarily on optimistic interest rate cut expectations, markets recalibrated their outlook for the anticipated timing and size of rate cuts. They are currently pricing in the first cut for the middle of 2024 and no more than three 25bp cuts for the year. While the disinflation trend continued in the US and other developed markets, US inflation came in higher than expected in January and ticked up higher in February, giving policymakers and investors pause, and adding to the caution around the beginning of the new monetary easing cycle. This led to a rise in 10-year yields over the quarter, which challenged long-duration bonds and rate-sensitive equity segments like real estate.

US economic growth, however, continued to be a bright spot and residual fears of an economic hard landing faded. Q4's GDP growth rate was revised up to 3.4% (from 3.2%) and 2024 poll GDP for the US stands out among peers at 2.0%. The US ISM Manufacturing Index rose above 50.3, after being in contractionary territory for 16 months.

US Q4 earnings mostly surprised to the upside, especially among large-caps. The Al-driven exuberance for Big Tech and related industries provided an additional tailwind for specific pockets of the market. Given this backdrop, equities continued to rally, in particular cyclicals and large-caps.

Oil rebounded in Q1 in a reversal from Q4 2023. Sustained geopolitical tensions in Ukraine and the Middle East and other supply side constraints likely helped. A slight upward revision to the economic outlook for the US and China, the two largest economies, may be supportive of the demand outlook. Energy stocks benefited.

Chart 1: The US 10-year yield rose in Q1 and R1000 Growth outpaced R1000 Value with the improving economic backdrop.

Chart 2: US Q4 2023 GDP was revised up to 3.4% and US's consensus 2024 growth rate stands out among peers.

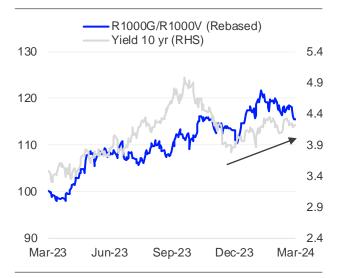
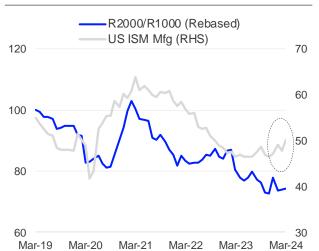


Chart 3: The US ISM Manufacturing index ventured over 50,	
after being in contractionary territory for 16 months.	

	GDP (%)		
	QoQ	Poll	
period	23Q4	2024	
US	3.4	2.0	
Canada	1.0	0.5	
UK	-1.2	0.3	
Germany	-1.1	0.3	
Eurozone	-0.2	0.5	
Japan	0.4	0.9	
China	3.6	4.6	

Note: GDP for Japan is for fiscal year ending March the following year.

Chart 4: Oil rebounded in Q1, partly helped by supply-side constraints, lifting energy stocks.





Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results.

FTSE Russell | Russell US Indexes Spotlight Q1 2024

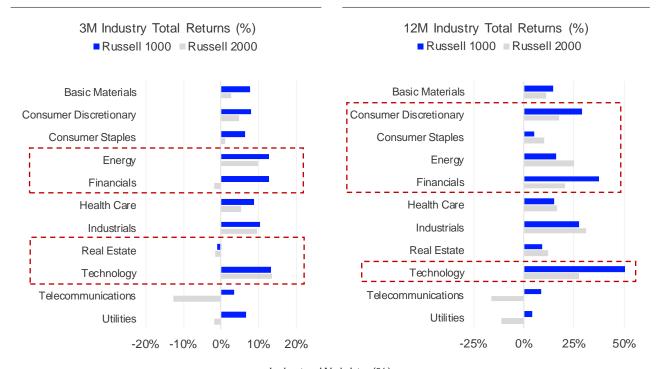
Industry Returns & Weights - Russell 1000 & Russell 2000

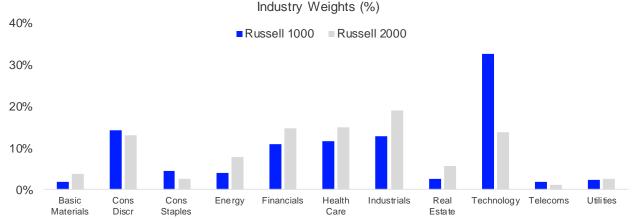
Amid broad-based gains, cyclicals generally led performance, while defensives and Real Estate lagged over the quarter in both large- and small-cap segments.

- Technology was best-performing in both the Russell 1000 & Russell 2000, helped by structural tailwinds. It contributed about 40% of the large-cap index's returns and a third of the small-cap index's gains.
- Energy rebounded in Q1 in both size segments on the back of rising oil prices. This benefited the Russell 2000's performance more, given Energy's higher relative weight in the small-cap index.
- Financials was second best-performing in large-caps but posted losses in the small-cap segment, detracting from the latter's performance. It is potentially a sign of lingering risks for smaller financial companies from sustained higher funding costs that larger financials are better able to weather (although over 12-months, small-cap Financials were in the green.)
- Real Estate posted losses for the quarter in both large- and small-cap segments, challenged by rising long-rates, but its impact on headline index performances was modest given its small weight in both indices.
- The cyclicals/defensives split seen in Q1 was similar to that over 12 months, where Technology, Financials and Discretionary were top performers in the Russell 1000, as were Industrials, Technology and Energy in the Russell 2000. Telecoms, Staples and Utilities made up the bottom three in both indices.

Chart 1: Amid broad Q1 gains, Real Estate posted losses in both size segments, while Energy rebounded.

Chart 2: Over 12M, large-caps outshone small-caps in Tech, Financials & Discretionary, and lagged in Energy & Staples.





Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of March 31, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q1 2024

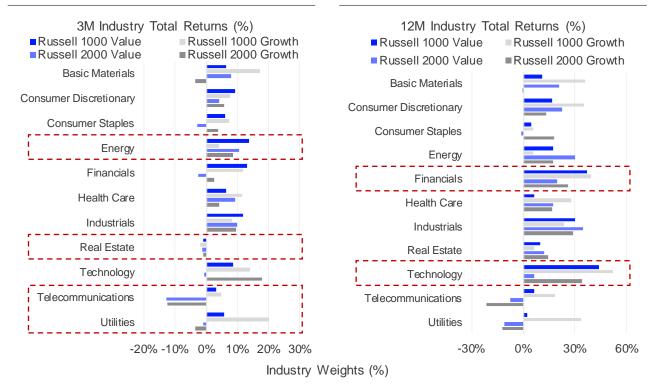
Industry Returns & Weights - Russell 1000 & Russell 2000 Growth & Value

Industry performance in the Russell style indices was broadly positive over both the 3-month and 12-month timeframes, with a few exceptions, primarily in defensives and Real Estate (over Q1).

- The Growth indices' outperformance of their Value counterparts can be partly attributed to their larger weights in high-performing Tech, and lower weights in industries that were challenged over the quarter, such as Real Estate, Utilities, Telecoms and Staples (in the large-cap segment for the latter two.).
- Interestingly, small-cap Technology outperformed large-cap Technology in Q1, indicating a potential broadening of benefits from Al-related optimism. But, given Technology's lower weight in the small-cap Growth index, it contributed a lower proportion of R2000 Growth's returns than large-cap Technology did to R1000 Growth's return.
- The better performance of large-cap Growth companies in Technology and Health Care helped R1000 Growth beat R1000 Value. And the better performance of small-cap Growth companies in Technology, Financials and Staples contributed to better returns for R2000 Growth relative to R2000 Value.
- Over 12 months, large-cap Growth companies in Technology, Discretionary and Health Care beat their Value peers to help R1000 Growth outperform R1000 Value. And the better performance of small-cap Growth companies in Technology helped R2000 Growth outperform R2000 Value.

Chart 1: In Q1, performance was broadly positive with a few exceptions, primarily in Real Estate and defensives.

Chart 2: For 12M, Growth beat Value counterparts in many industries, particularly in Technology and Financials.



Russell 1000 Value Russell 1000 Growth Russell 2000 Value ■ Russell 2000 Growth 60% 50% 40% 30% 20% 10% 0% Basic Cons Cons Financials Health Industrials Real Technology Telecoms Utilities Energy Materials Staples Discr Care Estate

Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of March 31, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q1 2024

Russell 1000 Sector Contributions to Return*

Drilling deeper into sector performance in Q1 within the 11 Russell 1000 industries:

- Within Discretionary, Retailers led with a substantial contribution to industry returns, while Automobiles and Parts detracted notably.
- In Staples, Personal Care Drug & Grocery Stores contributed substantially to bolster the industry's modest returns.
- All of Energy's contribution came from Oil, Gas & Coal, with Alternative Energy detracting modestly.
- In Financials, Investment Banking & Brokerage, Banks and Non-life Insurance contributed notably.
- Within Healthcare, Pharmaceuticals & Biotechnology led contributions followed by Medical Equipment & Services.
- Within Technology, both Software and Technology Hardware contributed almost evenly to industry returns.
- Among the detractors, all of Real Estate's losses came from REITs and all of Telecom's losses from Telecommunication Service Providers.

Table 1: Sectors within Energy, Discretionary, Technology and Health Care were the largest contributors in Q1. Oil, Gas & Coal dominated, followed by Retailers. Among the detractors, Telecom Service Providers and Automobiles & Parts were notable.

	Avg.	Q1 2024		Avg.	Q1 2024
Sector	Weight	Contrib.	Sector	Weight	Contrib
Basic Material	Health Care				
Chemicals	60.3%	4.41%	Health Care Providers	18.0%	0.44%
Industrial Materials	5.3%	0.42%	Medical Equipment and Services	32.0%	2.96%
Industrial Metals and Mining	28.8%	3.46%	Pharmaceuticals and Biotechnology	50.0%	5.35%
Precious Metals and Mining	5.6%	-0.87%	Industrials		
Consumer Discretionary			Aerospace and Defense	11.7%	0.40%
Automobiles and Parts	10.4%	-2.17%	Construction and Materials	7.2%	1.28%
Consumer Services	5.1%	0.90%	Electronic and Electrical Equipment	8.2%	0.86%
Household Goods & Home Construction	3.0%	0.38%	General Industrials	16.3%	2.18%
Leisure Goods	2.7%	-0.04%	Industrial Engineering	8.8%	1.19%
Media	11.5%	2.32%	Industrial Support Services	35.2%	3.39%
Personal Goods	5.1%	-0.27%	Industrial Transportation	12.6%	0.97%
Retailers		6.17%	Real Estate		
Travel and Leisure	19.5%	1.19%	Real Estate Investment & Services Dev.	7.2%	0.24%
Consumer Staples			Real Estate Investment Trusts	92.8%	-1.36%
Beverages	28.5%	1.29%	Technology		
Food Producers	20.0%	0.78%	Software and Computer Services	55.3%	5.51%
Personal Care Drug & Grocery Stores	41.6%	4.05%	Technology Hardware and Equipment	44.7%	4.97%
Tobacco		0.27%	Telecomunications		
Energy			Telecommunications Equipment	42.7%	0.12%
Alternative Energy	2.0%	-0.15%	Telecommunications Service Providers	57.3%	-2.71%
Oil, Gas and Coal		12.91%	Utilities		
Financials			Electricity	65.8%	4.75%
Banks	30.1%	4.21%	Gas, Water and Multi-utilities	22.3%	-0.07%
Finance and Credit Services	7.0%	0.11%	Waste and Disposal Services	11.9%	1.92%
Investment Banking and Brokerage Svcs	39.9%	4.73%			
Life Insurance	4.1%	0.46%			
Mortgage Real Estate Investment Trusts	0.6%	0.02%			
Non-life Insurance	18.3%	3.12%			

Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. *Indexes data shown here are from the Russell Capped Index Series, except for the Real Estate Industry. Data as of March 31, 2024. Past performance is no guarantee of future results.

EPS Growth & Revision Outlook - Russell 1000 & Russell 2000

Consensus 24-month EPS growth forecasts continued their upward climb for both the Russell 1000 and Russell 2000 over the quarter, as they have over the last 18 months, reflecting the resilience of the US economy, easing input cost inflation and AI-related tailwinds.

At quarter-end, analysts expected Russell 1000 earnings growth of 14.6% over the next 24-month period, slightly lower than at end-December but about the same as a year ago. Russell 2000 forecasts have risen to about 19%, from 16% at end-December and 17.7% one year ago.

Revision ratios for both indices have also grown less pessimistic. After improving over the last 18 months, revision ratios have stabilized around zero at slightly negative levels over the quarter.

Chart 1: Forecast for Russell 1000 forward 24-month EPS growth is similar to one year ago at 14.6%.

Chart 2: The small-cap forward 24-month EPS growth forecast has risen from 17.7% a year ago to around 19% at end-Q1.

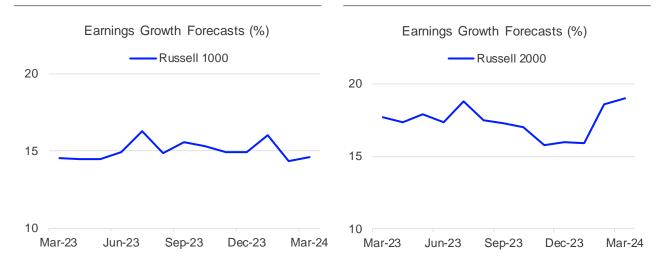


Chart 3: Revision ratios for the Russell 1000 and Russell 2000 have improved over the last 18 months. They have stabilized around zero at slightly negative levels over the quarter.



Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q1 2024

EPS Growth & Revision Outlook - R1000 & R2000 Growth & Value

EPS growth forecasts for the next 24 months declined modestly for Russell 1000 Growth (from 17.2% one year ago to 16.4% at quarter-end), while they improved for Russell 1000 Value (from 11.7% one year ago to 12.4% at quarter-end).

However, 24-month EPS growth forecasts for both small-cap style indices improved over the quarter and year to stand at 22.4% for Russell 2000 Growth and 15.6% for Russell 2000 Value at quarter-end. This may reflect a modest correction in earnings expectations for large-cap Growth that has also seen robust price appreciation over this timeframe. It may also be a sign of a broadening of the benefits accrued to equities from structural and macro tailwinds to other size and style segments.

Earnings revision ratios however indicated a modest deterioration within size and style segments, where the ratio of up to down revisions of 12-month earnings estimates turned negative for large-cap Growth, and more negative for both small-cap style indices over the quarter. Revision ratios improved slightly for the large-cap Value index over Q1.

Chart 1: EPS growth forecasts for R1000 Growth have declined modestly, while they have risen for R1000 Value over 12M.

Chart 2: Revision ratios improved for the large-cap Value index, while they turned slightly negative for large-cap Growth.

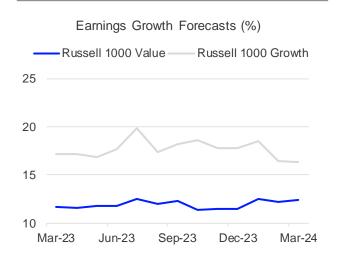


Chart 3: EPS growth forecasts have risen markedly for both small-cap styles since last year.

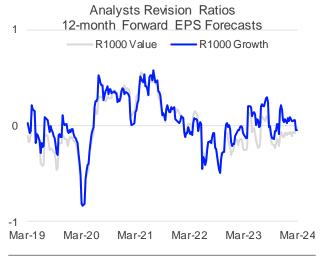
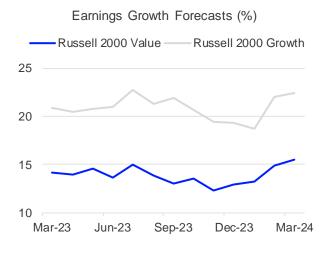
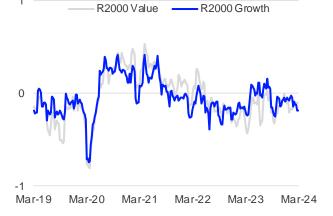


Chart 4: Revision ratios for both small-cap style indices deteriorated modestly over the quarter.





Analysts Revision Ratios

12-month Forward EPS Forecasts

Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results.

Dividend Yield – Trailing 12-Month

Dividend yields have slightly declined across the flagship Russell US indices over the past year at the same time that index levels have risen and there is a wider choice for dividend-seeking investors with higher yielding bonds. Dividend yields are higher than the depressed levels seen during the second half of 2021 when corporate cashflows were challenged by muted demand during the pandemic, but they are still lower than pre-pandemic levels.

Dividend yields have climbed for the Russell 1000 and Russell 2000 indices since their mid- to late-2021 troughs but declined slightly over the year. At quarter-end, both size benchmarks offered dividend yields of 1.3%-1.4% (compared to a 2019 average of 1.5%-1.9%).

Value indices typically pay higher dividend yields than their Growth counterparts, which is a result of their larger weights in traditionally steadier and more generous dividend payers among Telecom, Utilities and Financials, and smaller weights in Technology and other higher-growth companies that tend to pay little or no dividends.

Dividend yields for both Value indices have risen more significantly than for their Growth counterparts since 2021 (particularly among small-caps). At quarter-end, the Russell 2000 Value index offered a dividend yield of 2.2%, slightly lower than its pre-pandemic 2019 average of 2.3%. By comparison, the Russell 1000 Value index offered a dividend yield of 2.1% at quarter-end (compared to a 2019 average of 2.6%).

Chart 1: Both large and small-cap indices have seen dividend yields decline slightly over the past year, after climbing since mid- to late-2021. At quarter-end, dividend yields for both indices were around 1.3%-1.4%.

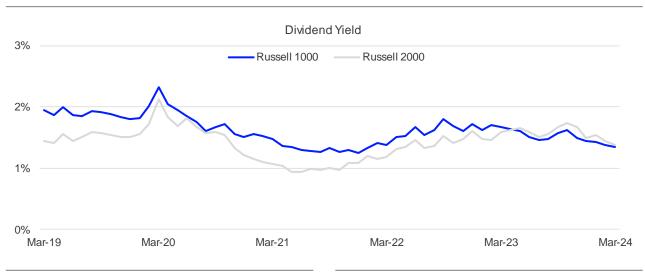
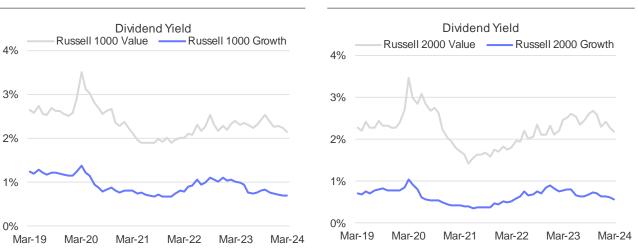


Chart 2: The dividend-yield gap between large-cap Value and Growth narrowed slightly over the quarter.

Chart 3: Russell 2000 Value offered a dividend yield of 2.2% at quarter-end, modestly below its pre-pandemic levels.



Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results.

9

Valuation – 12-Month Forward P/E

Forward P/Es have risen over the quarter and the last 12 months across the flagship Russell indices, at the same time that forecast earnings have been stable or higher. This is likely reflective of improved market sentiment, as fears of an economic hard landing from restrictive monetary policy receded over the last two quarters, and sustained optimism from the potential of AI technologies provided an additional tailwind to equity markets.

The Russell 1000 was trading at 21.1x at quarter-end, well above its 5-year (19.6x) and 10-year (18.3x) averages. The Russell 2000 was trading at 25.2x, just below its 5-year average (25.9x) but above its 10-year average (24.8x).

The large-cap Growth and Value cohorts also traded above their medium- and long-term averages at 27.9x and 16.2x, respectively, at quarter end, as did small-cap Value at 19.0x. Small-cap growth traded at 36.9x at quarter-end, still below 5- and 10-year averages.

Small-caps typically trade at a premium to large-caps given they are earlier in the corporate life cycle with a higher earnings growth potential. And growth stocks typically trade at a premium to value stocks for their higher growth potential. The small-cap valuation premium fell over the quarter from 4.9 to 4.1 as large-caps outpaced small-caps over the quarter. The large-cap Growth premium over large-cap Value rose from 11.3 to 11.7, as did the small-cap Growth premium over small-cap Value from 16.9 to 17.8, as Growth outperformed Value across the board.

Chart 1: Forward P/Es for both the Russell 1000 and Russell 2000 continued to normalize in Q1, as they have over 12 months. The small-cap valuation premium fell over the quarter as large-caps outpaced small-caps.

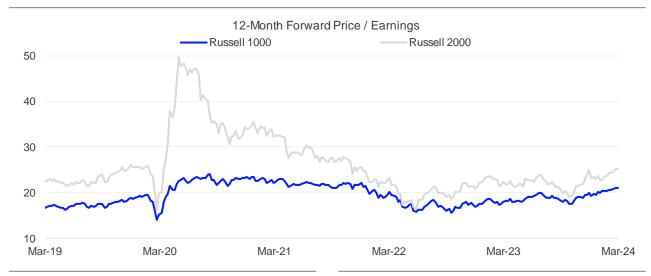
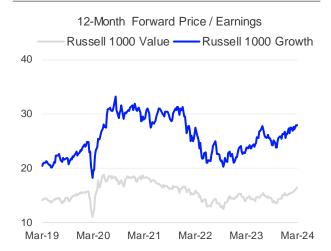


Chart 2: R1000 Growth widened its already large premium vs its Value cohort over Q1, reflecting large price gains.

Chart 3: R2000 Growth's premium vs Value widened in Q1 but remained significantly below its 10-year average.





10

Source: FTSE Russell and LSEG. All data as of March 31, 2024. Price/Earnings ratio capped at 100%. Past performance is no guarantee of future results.

IPO Additions

FTSE Russell adds eligible initial public offerings (IPOs) to its Russell US Indexes on a quarterly basis, ensuring that the indexes are always an accurate reflection of the markets they are designed to represent. Examining the history of such activity and its industry composition offers insights into market trends and investor sentiment.

While the number of IPOs each quarter tends to ebb and flow, the falloff over the past two years has been particularly dramatic, a likely effect of higher market volatility since 2020. During Q1 2024, there were no new IPO additions to the Russell 1000, but 6 inclusions to the Russell 2000, higher than the previous quarter and the same period one year ago.

From an industry standpoint, out of 8 inclusions to the Russell US family of indexes, 6 were in Health Care, and 1 each in Financials and Industrials. Health Care has historically dominated IPO inclusions, especially prior to the overall decline in IPO inclusions.

For more information, see Russell US Index IPO additions and reports.

Chart 1: Russell 2000 added six newcomers in Q1 (up from two in Q4 2023 and four in the same period one year ago). Russell 1000 added none in Q1, consistent with its sluggish record for eligible new IPO additions for the past several quarters.

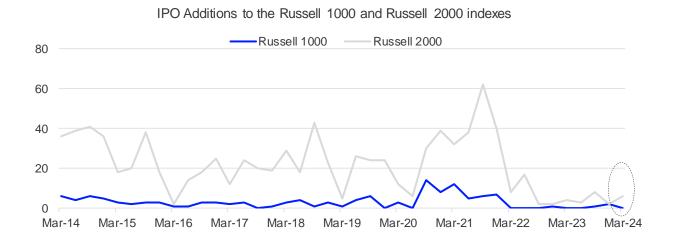
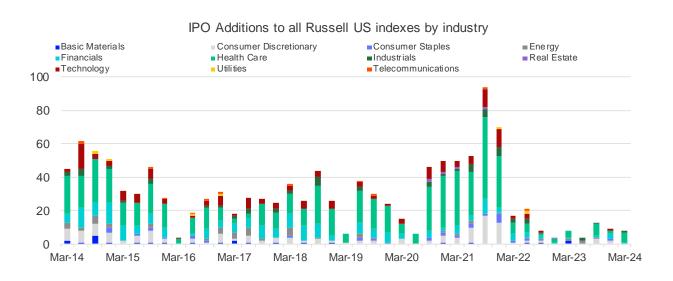


Chart 2: Returning to a long-running trends, there were six Health Care IPO inclusions to the Russell family of indexes in Q1. Financials and Industrials contributed one new name each.

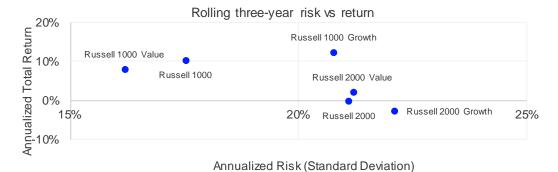


Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of March 31, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q1 2024

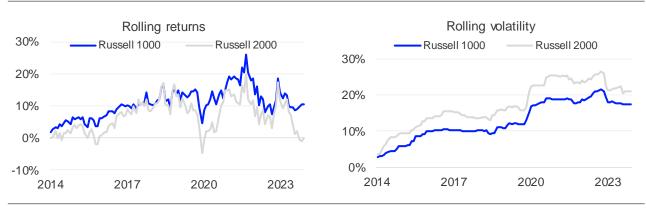
11

Return & Risk – Rolling Three-Year Patterns

In the most recent 3-year period, Russell 1000 outpaced Russell 2000 with far less risk. Large-cap Growth and Value outperformed their small-cap counterparts, again, with less risk.



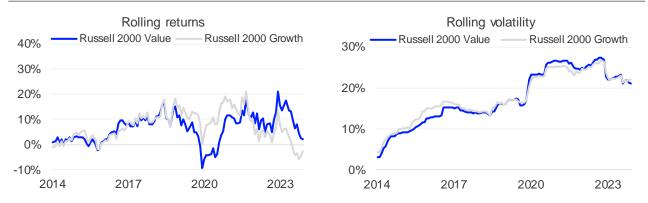
R1000 rolling 3-year returns ticked up relative to R2000's over the quarter, while relative risk remained stable.



R1000 Growth outperformed R1000 Value over the quarter, while relative risk increased slightly.



Rolling returns dipped over the quarter for R2000 Value (with slightly lower risk) and rose (became less negative) for R2000 Growth.



Source: FTSE Russell and LSEG. All data as of March 31, 2024. Past performance is no guarantee of future results.

FTSE Russell | Russell US Indexes Spotlight Q1 2024

Global Investment Research Market Maps



ABOUT FTSE RUSSELL

FTSE Russell is a leading global provider of index and benchmark solutions, spanning diverse asset classes and investment objectives. As a trusted investment partner, we help investors make better-informed investment decisions, manage risk, and seize opportunities.

Market participants look to us for our expertise in developing and managing global index solutions across asset classes. Asset owners, asset managers, ETF providers and investment banks choose FTSE Russell solutions to benchmark their investment performance and create investment funds, ETFs, structured products, and index-based derivatives. Our clients use our solutions for asset allocation, investment strategy analysis and risk management, and value us for our robust governance process and operational integrity.

For over 35 years we have been at the forefront of driving change for the investor, always innovating to shape the next generation of benchmarks and investment solutions that open up new opportunities for the global investment community.

CONTACT US

To learn more, visit Iseg.com/ftse-russell; email info@ftserussell.com; or call your regional Client Service team office: EMEA +44 (0) 20 7866 1810

North America +1 877 503 6437

Hong Kong +852 2164 3333

Tokyo +81 3 6441 1430 Sydney +61 (0) 2 7228 5659

© 2024 London Stock Exchange Group plc and its applicable group undertakings ("LSEG"). LSEG includes (1) FTSE International Limited ("FTSE"), (2) Frank Russell Company ("Russell"), (3) FTSE Global Debt Capital Markets Inc. and FTSE Global Debt Capital Markets Limited (together, "FTSE Canada"), (4) FTSE Fixed Income Europe Limited ("FTSE FI Europe"), (5) FTSE Fixed Income LLC ("FTSE FI"), (6) The Yield Book Inc ("YB") and (7) Beyond Ratings S.A.S. ("BR"). All rights re-served.

FTSE Russell® is a trading name of FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB and BR. "FTSE®", "Russell®", "FTSE Russell®", "FTSE4Good®", "ICB®", "The Yield Book®", "Beyond Ratings®" and all other trademarks and service marks used herein (whether registered or unregistered) are trademarks and/or service marks owned or licensed by the applicable member of LSEG or their respective licensors and are owned, or used under licence, by FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB or BR. FTSE International Limited is authorised and regulated by the Financial Conduct Authority as a benchmark administrator.

All information is provided for information purposes only. All information and data contained in this publication is obtained by LSEG, from sources believed by it to be accurate and reliable. Because of the possibility of human and mechanical error as well as other factors, however, such information and data is provided "as is" without warranty of any kind. No member of LSEG nor their respective directors, officers, employees, partners or licensors make any claim, prediction, warranty or representation whatsoever, expressly or impliedly, either as to the accuracy, timeliness, completeness, merchantability of any information or of results to be obtained from the use of FTSE Russell products, including but not limited to indexes, data and analytics, or the fitness or suitability of the FTSE Russell products for any particular purpose to which they might be put. Any representation of historical data accessible through FTSE Russell products is provided for information purposes only and is not a reliable indicator of future performance.

No responsibility or liability can be accepted by any member of LSEG nor their respective directors, officers, employees, partners or licensors for (a) any loss or damage in whole or in part caused by, resulting from, or relating to any error (negligent or otherwise) or other circumstance involved in procuring, collecting, compiling, interpreting, analysing, editing, transcribing, transmitting, communicating or delivering any such information or data or from use of this document or links to this document or (b) any direct, indirect, special, consequential or incidental damages whatsoever, even if any member of LSEG is advised in advance of the possibility of such damages, resulting from the use of, or inability to use, such information.

No member of LSEG nor their respective directors, officers, employees, partners or licensors provide investment advice and nothing in this document should be taken as constituting financial or investment advice. No member of LSEG nor their respective directors, officers, employees, partners or licensors make any representation regarding the advisability of investing in any asset or whether such investment creates any legal or compliance risks for the investor. A decision to invest in any such asset should not be made in reliance on any information herein. Indexes cannot be invested in directly. Inclusion of an asset in an index is not a recommendation to buy, sell or hold that asset nor confirmation that any particular investor may lawfully buy, sell or hold the asset or an index containing the asset. The general information contained in this publication should not be acted upon without obtaining specific legal, tax, and investment advice from a licensed professional.

Past performance is no guarantee of future results. Charts and graphs are provided for illustrative purposes only. Index returns shown may not represent the results of the actual trading of investable assets. Certain returns shown may reflect back-tested performance. All performance presented prior to the index inception date is back-tested performance. Back-tested performance is not actual performance but is hypothetical. The back-test calculations are based on the same methodology that was in effect when the index was officially launched. However, back-tested data may reflect the application of the index methodology with the benefit of hindsight, and the historic calculations of an index may change from month to month based on revisions to the underlying economic data used in the calculation of the index.

This document may contain forward-looking assessments. These are based upon a number of assumptions concerning future conditions that ultimately may prove to be inaccurate. Such forward-looking assessments are subject to risks and uncertainties and may be affected by various factors that may cause actual results to differ materially. No member of LSEG nor their licensors assume any duty to and do not undertake to update forward-looking assessments.

No part of this information may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without prior written permission of the applicable member of LSEG. Use and distribution of LSEG data requires a licence from FTSE, Russell, FTSE Canada, FTSE FI, FTSE FI Europe, YB, BR and/or their respective licensors.

The information contained in this report should not be considered "research" as defined in recital 28 of the Commission Delegated Directive (EU) 2017/593 of 7 April 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council ("MiFID II") and is provided for no fee.