

## Russell US Indexes Spotlight

## QUARTERLY REPORT | JULY 2024

# Large-cap Growth buoys US equities amid narrowing rally

Signs of a cooling economy, resumption of disinflation and more modest expectations for the timing and size of interest rate cuts in 2024 provided the macro backdrop for equity performance in Q2. All optimism provided structural tailwinds for specific pockets of the market.

### Large-caps sustain leadership

Russell 1000 outperformed Russell 2000 in Q2, helped by the sustained large-cap Tech rally. Russell 2000 and its style cohorts were in the red, in a reversal from Q1.

#### **Growth outperforms Value**

Large-cap Growth outpaced all other style cohorts, consistent with the 12-month trend. Small-cap Growth marginally outperformed small-cap Value in Q2.

#### Al beneficiaries lead large-cap industry returns

Technology & Utilities buoyed the large-cap index. Tech Hardware & Software and Electricity contributed notably, likely benefiting from investments in AI technologies.

## Earnings outlook improves

The 2-year EPS outlook improved for large-cap Growth and Value and small-cap Growth. It was marginally lower at the end of Q2 for small-cap Value.

#### Valuations moderate

Forward P/Es re-rated for Russell 1000 and its Growth cohort, but derated for Russell 1000 Value, the Russell 2000 index and its style cohorts.

#### Russell IPO inclusions are highest in two years

Russell 1000 and Russell 2000 included 3 and 12 new IPO names, respectively, in Q2. Health Care once again dominated IPO inclusions with 8 out of 15 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**

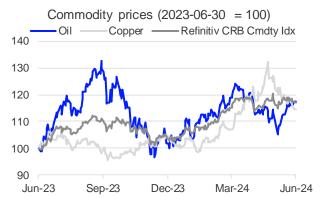
Mark Barnes PhD Head of Global Investment Research, Americas Mark.Barnes@Iseg.com

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

Chart 1: The US 10-yr yield ended Q2 17 bps higher. R1000 Growth outpaced R1000 Value riding on the Big Tech rally.



Chart 2: In Q2, the broad commodity index and copper continued to rally before moderating; oil was volatile.



Source: FTSE Russell and LSEG. Data as of June 30, 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

The US equity rally narrowed in Q2 from the broad-based gains seen in Q4 2023 and Q1 2024. Structural tailwinds from the promise of AI technologies boosted related industry returns, e.g., in software services, chipmakers, chip equipment manufacturers, etc. But there were also signs that the market may be broadening its AI play to non-tech beneficiaries.

In Q2 2024, Russell 1000 outshone Russell 2000, which was consistent with the 12-month trend. Much of the large-cap index's performance came from the stellar run in large-cap Growth which outpaced the other style segments. This too was in line with the 12-month trend. The small-cap index, its Growth and Value cohorts and the large-cap Value index ended the quarter in the red, which was a reversal from Q1.

The Growth cohorts in both the large-cap and small-cap segments outperformed the headline index and their Value counterparts in Q2. Although both Growth cohorts have far higher weights to Technology than their Value counterparts, large-cap Tech seems to have benefited from the AI optimism in a way that small-cap Tech did not over the quarter. Over 12 months, large-cap Growth outperformed large-cap Value, but small-cap Value slightly outperformed small-cap Growth.

Chart 1: Russell 1000 outpaced Russell 2000 in Q2. The large-cap Growth index outperformed its Value counterpart. Russell 2000 and its Growth and Value cohorts were in the red for the quarter, with small-cap Growth marginally outperforming small-cap Value.

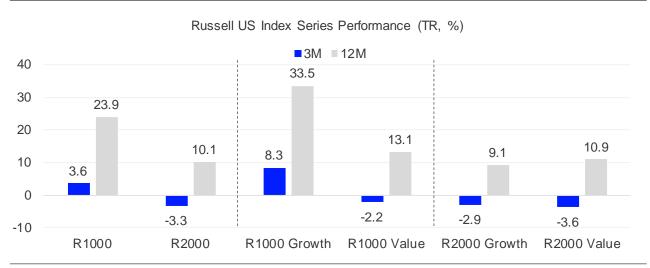
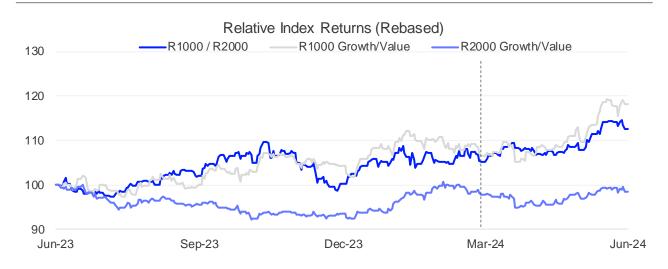


Chart 2: Russell 1000 retained its edge over Russell 2000 over the 12-month timeframe. Similarly, the large-cap Growth index outperformed its Value counterpart. Over 12M, Russell 2000 Value slightly outperformed is Growth counterpart.



Source: FTSE Russell and LSEG. All data as of June 30, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q2 2024

### Macro Drivers

Sticky Q1 inflation in the US led markets to expect an even later start to the US monetary easing cycle. At the end of Q2, markets were pricing in less that two 25 bp cuts for the year starting no earlier than September. During the quarter, the US 10-year Treasury yield surged to 4.70% in April before declining to 4.37% at quarter-end (Chart 1) as disinflation resumed in April and May.

There were some signs of a cooling US economy. US Q1 2024 GDP growth was revised down from 1.6% to 1.4% QoQ annualized. However, the US continued to be a bright spot among G7 peers with 2024 poll GDP growth at 2.3% (Chart 2).

The US ISM Manufacturing Index rose above 50 during Q1 after being in contractionary territory (below 50) for 16 months. However, it retreated below 50 once again in Q2. The ISM Non-Manufacturing Composite had been relatively strong since the services rebound after the pandemic. The index dipped below 50 in April for the first time since December 2022 but rebounded in May before declining to contraction territory again in June (Chart 3). However, it has not had back-to-back months of contraction since April and May of 2020.

After its Q1 rebound, oil retreated sharply in April and May before recovering some of the losses in June. Energy stocks, primarily in the Oil, Gas & Coal sector, reflected the related pessimism. Copper continued its strong advance from Q1 into April and May on the back of secular demand related to the green transition and Al infrastructure needs. The copper price moderated in June. The broad commodity index was more-or-less flat for the guarter (Chart 4).

Chart 1: The US 10-yr yield ended Q2 17 bps higher. R1000 Growth outpaced R1000 Value riding on the Big Tech rally.

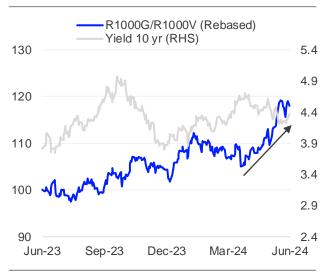


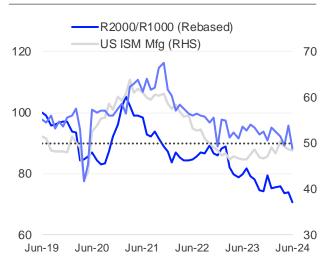
Chart 3: The US ISM Mfg index retreated below 50 once again in Q2. The Non-Mfg composite has been relatively strong.

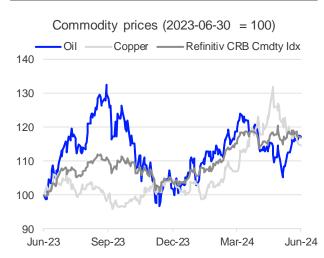
Chart 2: US Q1 2024 GDP was revised down to 1.4% (from 1.6%), but its 2024 consensus growth still stood out among peers.

	GDP (%)		
	QoQ	Poll	
period	24Q1	2024	
US	1.4	2.3	
Canada	1.7	0.7	
UK	2.9	0.7	
Germany	0.9	0.1	
Eurozone	1.3	0.7	
Japan	-2.9	0.9	
China	9.7	4.6	

Note: Quarter-on-quarter (QoQ) GDP growth is annualized. GDP growth for Japan is for fiscal year ending March the following year.

Chart 4: In Q2, the broad commodity index and copper continued to rally before moderating; oil was volatile.





Source: FTSE Russell and LSEG. All data as of June 30, 2024. Past performance is no guarantee of future results.

## Industry Returns & Weights - Russell 1000 & Russell 2000

Amid a narrowing equity rally, industry returns were mostly negative in Q2 in both large- and small-cap segments.

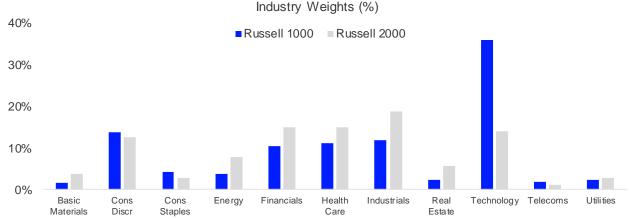
- Within Russell 1000, Technology was the best-performing industry, helped by sustained AI enthusiasm. Utilities was second, buoyed by the Electricity sector, which likely benefitted from the same structural tailwind. Telecoms and Discretionary also posted small positive returns.
- Within Russell 2000, Staples, Telecoms and Utilities were the only industries with positive returns which, given their small weights in the index, could not offset the losses from Industrials, Health Care and Financials, the three largest industries. Interestingly, small-cap Technology also posted losses, which was a reversal from Q1.
- Except for large-cap Tech and Discretionary (to a small extent) all cyclical industries posted losses for the quarter across size segments, potentially indicative of a cyclical slowdown.
  - Both large- and small-caps in Basic Materials and Industrials posted notable losses.
  - After rebounding in Q1 in both size segments on the back of rising oil prices, Energy too retreated in Q2.
  - Real Estate continued to struggle amid still restrictive financial conditions.
- Over 12 months, most industries across the size segments posted positive returns, and large-caps outshone small-caps in all but Staples, Industrials and Real Estate. Large-cap Technology and Financials held sway.

Chart 1: Large-cap Technology & Utilities stood out in the narrow Q2 rally. Most small-cap industries posted losses.

Chart 2: Over 12M, large-caps outshone small-caps in all but Staples and, to a small extent, in Industrials and Real Estate.

4





Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of June 30, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q2 2024

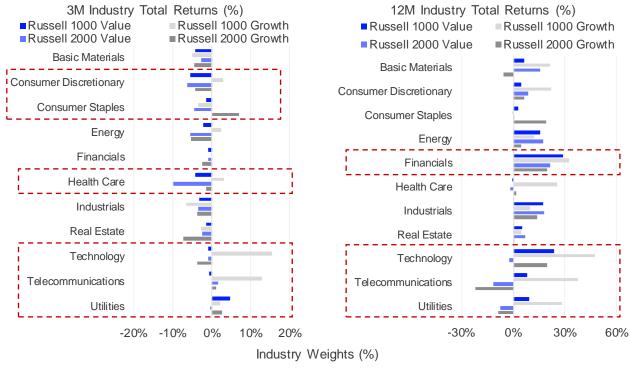
## Industry Returns & Weights - Russell 1000 & Russell 2000 Growth & Value

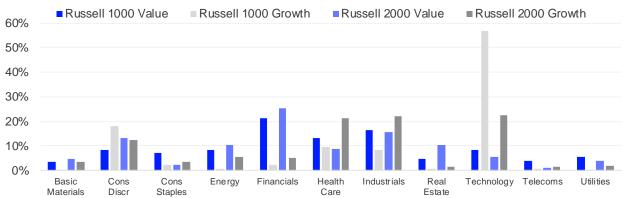
Industry performance in the Russell style indices was mostly negative in Q2, unlike over the previous quarter and the 12-month timeframe.

- Within large-caps, Growth outshone Value on the back of strong performance by large-cap Growth companies in Technology and their 57% weight in the Russell 1000 Growth index.
- Within small-caps, Growth marginally outperformed Value helped by the positive returns of small-cap Growth companies within Staples and the notably poor performance of small-cap Value companies within Health Care and Discretionary.
- Within Growth, large-caps beat small-caps in all but Staples and Utilities where small-cap companies fared better.
- Within Value, larger losses in small-caps within Health Care, Discretionary and Energy led small-cap Value to lag its large-cap Value cohort.
- Over the 12-month timeframe, industry performance within the style indices was mostly positive. Large-cap Growth beat small-cap Growth in all but Staples and Industrials, with the highest relative returns in Telecoms, Utilities, Tech and Basic Materials. Similarly, large-cap Value significantly outperformed small-cap Value in Tech, Telecoms and Utilities.

Chart 1: In Q2, performance was broadly negative with a few exceptions, primarily in Tech, Telecoms and Utilities.

Chart 2: For 12M, large-caps beat small-caps notably in Tech, Telecoms and Utilities. Financials was in the top 3 broadly.





Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of June 30, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q2 2024

## Russell 1000 Sector Contributions to Return\*

Drilling deeper into Q2 performance within the 11 Russell 1000 industries:

- Technology was the best performing industry with Technology Hardware & Equipment contributing the bulk of industry returns. Software & Computer Services also pitched in.
- Utilities was the second best-performing industry with all sectors contributing, notably Electricity, which potentially benefits from higher computing needs related to AI technologies and the green transition.
- Even as Health Care detracted from index returns, the Pharmaceuticals & Biotechnology sector contributed. And Discretionary was entirely supported by contributions from Automobiles & Parts and Retailers.
- Basic Materials, Industrials, Staples and Energy were the worst-performing industries. Several sectors from within
  these struggled, namely, Metals & Mining, Chemicals, Industrial Support Services, Oil, Gas & Coal, and Personal
  Care Drug & Grocery Stores. This performance was against the backdrop of a volatile quarter for oil after its steady
  advance in Q1 and some signs of a cooling US economy.

Table 1: Technology and Utilities led industry returns in Q2 with contributions from Tech Hardware, Software and Electricity. Basic Materials, Industrials, Staples & Energy detracted during a quarter when oil was volatile, and US growth showed signs of softening.

	Avg.	Q2 2024	when oil was volatile, and US growth showed signs of softening.  Avg. Q2 20			
Sector		Contrib.	Sector		Contrib.	
Basic Material			Health Care			
Chemicals	59.6%	-2.71%	Health Care Providers	18.0%	-0.25%	
Industrial Materials	5.4%	0.06%	Medical Equipment and Services	31.5%	-1.61%	
Industrial Metals and Mining	28.5%	-2.86%	Pharmaceuticals and Biotechnology	50.5%	1.06%	
Precious Metals and Mining	6.5%	0.79%	Industrials			
Consumer Discretionary		Aerospace and Defense	15.1%	0.03%		
Automobiles and Parts	11.2%	0.69%	Construction and Materials	7.7%	-0.29%	
Consumer Services	5.0%	-0.23%	Electronic and Electrical Equipment	8.5%	-0.36%	
Household Goods & Home Construction	2.9%	-0.38%	General Industrials	14.4%	0.20%	
Leisure Goods	2.7%	-0.06%	Industrial Engineering	8.6%	-0.80%	
Media	11.3%	-0.16%	Industrial Support Services	33.8%	-2.34%	
Personal Goods	4.6%	-0.83%	Industrial Transportation	11.9%	-1.01%	
Retailers	42.7%	0.67%	Real Estate			
Travel and Leisure	19.6%	-0.54%	Real Estate Investment & Services Dev.	6.9%	-0.97%	
Consumer Staples		Real Estate Investment Trusts	93.1%	-0.71%		
Beverages	28.5%	-0.70%	Technology			
Food Producers	19.6%	-1.19%	Software and Computer Services	49.1%	2.03%	
Personal Care Drug & Grocery Stores	41.2%	-1.25%	Technology Hardware and Equipment	50.9%	9.56%	
Tobacco	10.7%	1.00%	Telecomunications			
Energy			Telecommunications Equipment	41.5%	0.62%	
Alternative Energy	2.1%	0.12%	Telecommunications Service Providers	58.5%	-1.04%	
Oil, Gas and Coal	97.9%	-2.22%	<u> Utilities</u>			
Financials			Electricity	67.3%	3.48%	
Banks	30.3%	0.27%	Gas, Water and Multi-utilities	21.3%	0.73%	
Finance and Credit Services	6.7%	0.08%	Waste and Disposal Services	11.4%	0.24%	
Investment Banking and Brokerage Svcs	39.8%	-0.53%				
Life Insurance	4.1%	-0.11%				
Mortgage Real Estate Investment Trusts	0.6%	-0.01%				
Non-life Insurance	18.5%	-0.47%				

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 June 30, 2024. Past performance is no guarantee of future results.

## EPS Growth & Revision Outlook - Russell 1000 & Russell 2000

Consensus 2-year forecast EPS growth rose for both the Russell 1000 and Russell 2000 indices over the quarter, as they have over the last 12 months reflecting the resilience of the US economy, easing input cost inflation and AI-related tailwinds. (The 2-year forecast EPS growth is the expected growth rate of EPS over the two years from the next reported earnings.)

At the end of Q2, analysts expected Russell 1000 earnings growth of 15.3% over the next 2 years, higher than the 14.6% growth expected at end-March and 14.9% expected growth from one year ago. Russell 2000 forecast EPS growth rose to 19.1% from about 18.9% at end-March and 17.3% one year ago.

Revision ratio for the Russell 1000 index rose over the quarter before turning negative again at quarter-end. Similarly, revision ratio for the Russell 2000 index rose over the quarter to dip towards quarter-end but was still positive. After improving over the last 2 years, revision ratios have stabilized around zero over the last two quarters.



Chart 2: The small-cap forward 2-year EPS growth has risen from 17.3% a year ago to 19.1% at the end of Q2.

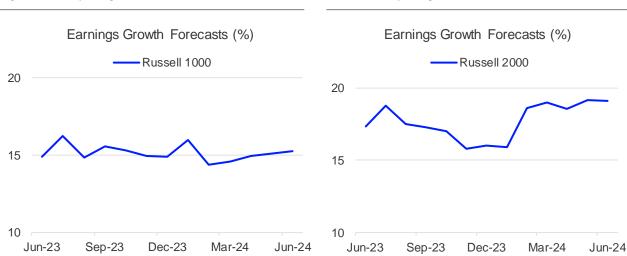
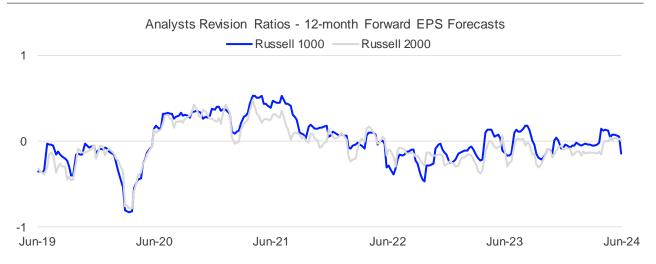


Chart 3: Revision ratios for the Russell 1000 and Russell 2000 have improved over the last 2 years. They have stabilized around zero over the last two quarters.



Source: FTSE Russell and LSEG. All data as of June 30, 2024. Past performance is no guarantee of future results.

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

The 2-year forecast EPS growth rose for Russell 1000 Growth over the quarter to 17.3% from 16.4% at the end of Q1. This was lower than the 17.7% expected growth from one year ago. EPS growth for the Russell 1000 Value improved to 12.5% from 12.4% at March-end and 11.8% one year ago.

For Russell 2000 Growth, 2-year EPS growth forecasts improved to 22.6% (from 22.4% at March-end and 21.1% one year ago) and dipped slightly to 15.5% for Russell 2000 Value (from 15.6% at March-end) but was higher than the 13.6% expected growth from one year ago.

The healthy EPS forecast numbers may reflect the potential benefits that may accrue to US equities broadly from structural tailwinds such as productivity gains from AI technologies and a resilient US economy.

Earnings revision ratios within size and style segments rose over the quarter but declined once again towards quarterend for large-cap Growth and Value, while they stayed improved for small-cap Growth and Value. Russell 2000 Growth saw the largest improvement in earnings revision ratios in Q2.

Chart 1: EPS growth forecasts for Russell 1000 Growth declined over 12M, while they rose for Russell 1000 Value.

Chart 2: Revision ratios improved over Q2 for the large-cap Growth and Value indices before dipping at quarter-end.

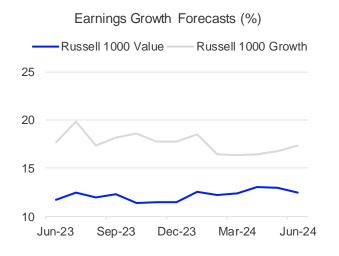


Chart 3: EPS growth forecasts have risen markedly for both small-cap styles since last year.

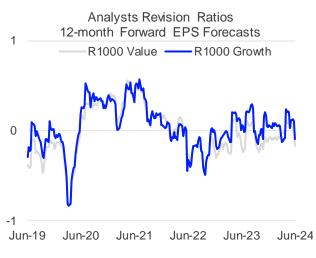
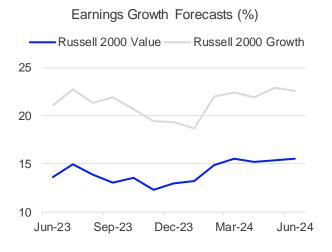
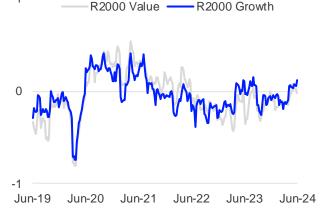


Chart 4: Revision ratios for both small-cap style indices rose over the quarter; more so for Russell 2000 Growth.

Analysts Revision Ratios

12-month Forward EPS Forecasts





Source: FTSE Russell and LSEG. All data as of June 30, 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 while index levels have risen. At quarter-end, dividend yield for Russell 1000 was 1.32% (down slightly from 1.35% at end-March and 1.50% one year ago) and for Russell 2000 was 1.44% (up from 1.37% at end-March but down from 1.59% one year ago). By comparison, the pre-pandemic 2019 average of dividend yields for the Russell 1000 and Russell 2000 were 1.90% and 1.50%, respectively.

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

Dividend yields for the small-cap Value index have risen more significantly than for its large-cap Value counterpart since 2021. At quarter-end, the Russell 2000 Value index offered a dividend yield of 2.29% (up from 2.18% at Marchend but down from 2.52% one year ago) and in line with its 2019 average of 2.29%. The Russell 1000 Value index offered a dividend yield of 2.20% at quarter-end (up from 2.14% at March-end but down from 2.32% one year ago), still below its 2019 average of 2.62%.

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%.

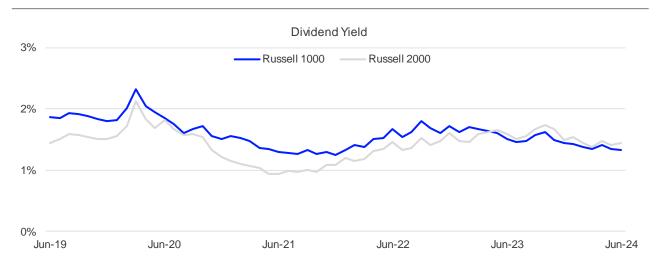
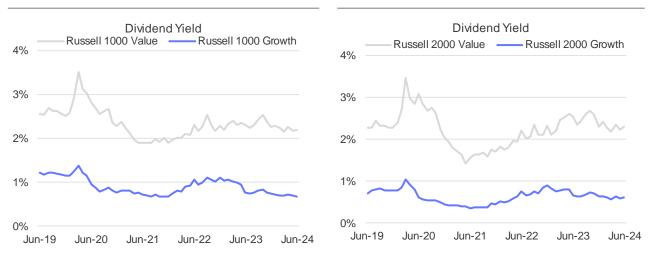


Chart 2: Russell 1000 Value offered a dividend yield of 2.20% at quarter-end, below its pre-pandemic 2019 average of 2.62%.

Chart 3: Russell 2000 Value offered a dividend yield of 2.29% at quarter-end, on par with its pre-pandemic 2019 average.



Source: FTSE Russell and LSEG. All data as of June 30, 2024. Past performance is no guarantee of future results.

## Valuation – 12-Month Forward P/E

Forward P/Es rose for the Russell 1000 and Russell 1000 Growth indices over the quarter, while they declined for the Russell 1000 Value, and the Russell 2000 and its style cohorts. This was in the context of higher or stable forecast earnings for both size segments and their style cohorts. Over 12 months, forward P/Es rerated for all but the small-cap Value index.

The Russell 1000 was trading at 21.1x at quarter-end, above its 5-year (19.7x) and 10-year (18.4x) averages. The Russell 2000 was trading at 23.0x, below its one year ago ratio of 25.2x and its long-term averages of 26.0x over 5 years and 24.9x over 10 years.

The large-cap Growth and Value cohorts also traded above their medium- and long-term averages at 28.5x and 15.7x, respectively, at quarter end. Small-cap Value derated to 17.7x over the quarter and below its long-term averages of 18.0x over 5 years and 18.5x over 10 years. Small-cap growth de-rated to 32.2x at quarter-end, still below its 5- and 10year averages of 49.5x and 40.5x, respectively.

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 guarter from 4.1 to a mere 1.9 as large-caps outpaced smallcaps over the quarter. The large-cap Growth premium over large-cap Value rose from 11.7 to 12.8 as Growth beat Value. However, the small-cap Growth premium over small-cap Value declined from 17.8 to 14.5, as small-cap Growth just marginally beat small-cap Value.

Chart 1: Forward P/Es for the Russell 1000 and Russell 2000 rose over 12 months but declined over Q2 for the small-cap index. The small-cap valuation premium fell over Q2 and 12 months as large-caps outpaced small-caps.

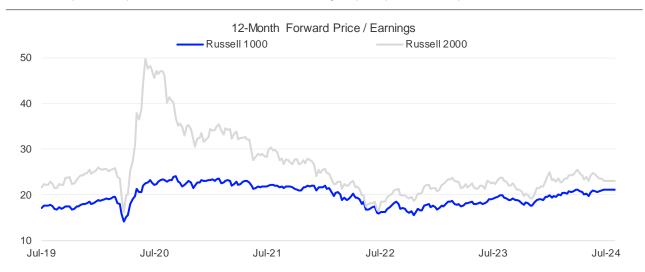


Chart 2: R1000 Growth widened its already large premium vs its Value cohort over Q2, reflecting large price gains.

Chart 3: R2000 Growth's premium vs R2000 Value declined in Q2 and remained significantly below long-term averages.

at 100%)

-Russell 2000 Growth



Jul-19 Jul-20 Jul-21 Jul-22 Jul-23 Jul-24

Source: FTSE Russell and LSEG. All data as of June 30, 2024. Price/Earnings ratio capped at 100%. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q2 2024

## **IPO** Additions

FTSE Russell adds eligible initial public offerings (IPOs) to its Russell US Indices on a quarterly basis, ensuring that the indices 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. However, during Q2 2024, there was an uptick in the number of new IPO additions to the Russell family of indices. Russell 1000 added three while Russell 2000 included 12 new names, which is the highest number of IPO additions since mid-2022.

From an industry standpoint, out of 15 inclusions to the Russell US family of indices, eight were in Health Care, one each in Discretionary, Energy and Real Estate, and two each in Industrials and Technology. 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 12 newcomers in Q2 (up from six in Q1 and three in the same period one year ago.) Russell 1000 added three in Q2 (up from zero last quarter and one year ago.)

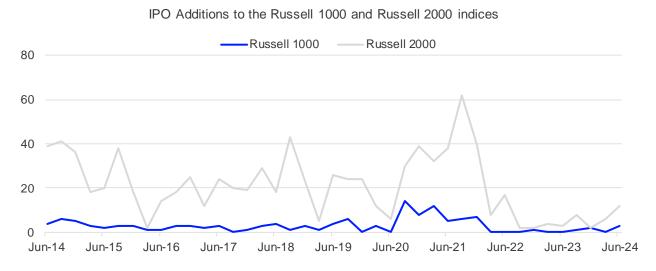
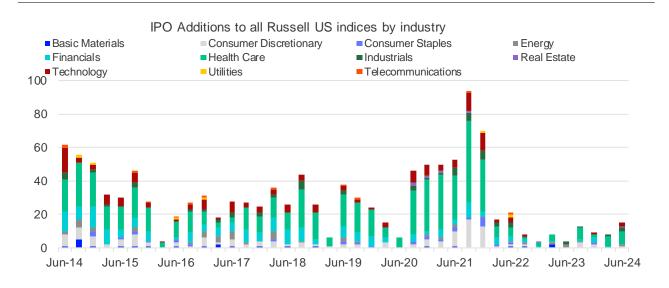


Chart 2: Returning to a long-running trend, there were eight Health Care IPO inclusions to the Russell family of indices in Q2 (up from six in Q1). Discretionary, Energy and Real Estate each included one name. Industrials and Tech contributed two names each.

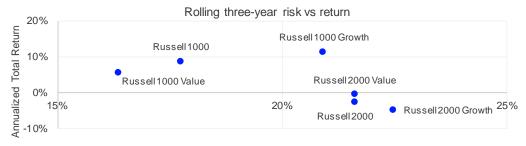


Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of June 30, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q2 2024

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.

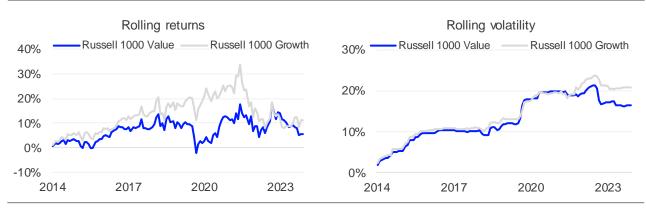


Annualized Risk (Standard Deviation)

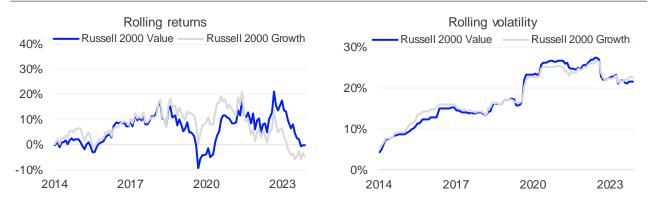
Russell 1000 rolling 3-year returns held up better than Russell 2000's over the quarter, while risk remained stable.



Rolling returns for Russell 1000 Growth and Value declined slightly over the quarter, while risk remained stable.



Rolling returns dipped over Q2 for Russell 2000 Value and Growth, with marginally higher risk.



Source: FTSE Russell and LSEG. All data as of June 30, 2024. Past performance is no guarantee of future results.

## 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.