

Russell US Indexes Spotlight

QUARTERLY REPORT | OCTOBER 2024

Small-caps and Value outperform during volatile quarter for equities

Declining yields, continued disinflation and resilient economic growth provided the macro backdrop for US equity performance in Q3. The Fed entered the monetary easing fray with a hefty 50 bp first rate cut. The tech rally seemed to stall as equity performance broadened to lagging market segments.

Small-caps lead in Q3

Russell 2000 outperformed Russell 1000 in Q3, in a reversal from Q2, as the Tech rally seemed to stall, and US equity performance broadened.

Value outperforms Growth

Large-cap and small-cap Value outperformed their Growth counterparts, different from the 12-month trend. Russell 1000 Growth lagged the most among styles.

Real Estate shines

Real Estate soared amid declining yields. Utilities, Telecoms and Financials were among top 5 in both style segments. Technology and Energy lagged broadly.

Earnings outlook mixed

The 2-year EPS outlook improved for Russell 1000, its Growth and Value cohorts, and small-cap Value. It declined for Russell 2000 and its Growth cohort.

Valuations re-rate

Forward P/Es rose over the quarter for both the headline Russell indices and their style cohorts.

Russell IPO inclusion activity holds steady

Russell 1000 and Russell 2000 included 1 and 12 new IPO names, respectively, down by two names from Q2. Health Care dominated with 6 out of 13 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

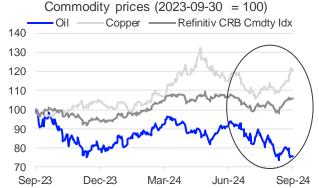
Mark Barnes PhD Head of Global Investment Research, Americas Mark.Barnes@Iseg.com

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

Chart 1: The US 10-yr treasury yield ended Q3 59 bps lower, supporting Russell 2000's outperformance of Russell 1000.



Chart 2: In Q3, oil was volatile and saw a decline of 17%, even as copper gained and the broad commodity index was flat.



Source: FTSE Russell and LSEG. Data as of September 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

Amid firmer expectations for US monetary easing, in a volatile quarter for equities and other risk assets, market segments that had lagged over 12 months played catch up in Q3. The US equity rally broadened to small-caps and Value stocks as yields declined and US economic growth remained resilient despite labor market and manufacturing related concerns. While markets were still gripped by AI optimism, Technology stocks seemed to be priced for perfection, with modest price moves even in response to earnings beats. The trend of the market broadening its AI play to non-tech beneficiaries continued.

In Q3, Russell 1000 lagged Russell 2000, in a reversal from Q2 and the 12-month trend. Much of the large-cap index's underperformance came from the modest performance of the tech-heavy large-cap Growth index, which lagged other size and style segments over the quarter. This was in sharp contrast to Russell 1000 Growth's stellar run over 12 months, aided by the Tech industry's sizeable gains over that period. In a reversal from Q2, the small-cap index, its Growth and Value cohorts and the large-cap Value index ended the quarter in the green. The Value cohorts in both the large-cap and small-cap segments outperformed the headline index and their Growth counterparts in Q3.

Over 12 months, large-cap Growth sustained its outperformance of large-cap Value, and small-cap Growth was slightly ahead of small-cap Value.

Chart 1: In a reversal from Q2 and the 12M trend, Russell 2000 outperformed Russell 1000 in Q3. Both large-cap and small-cap Value indices bested their Growth counterparts. Large-cap Growth's underperformance was in sharp contrast to its 12M outperformance.

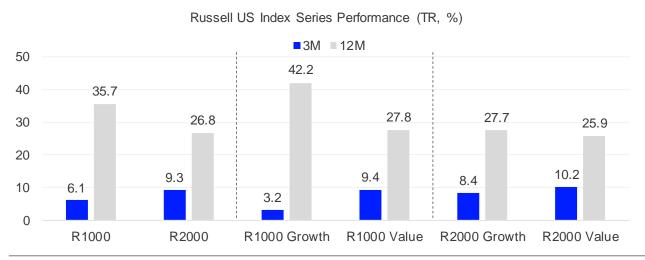
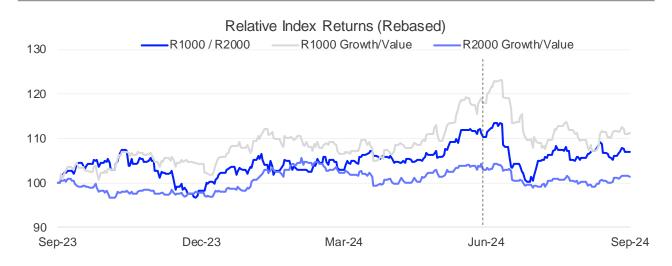


Chart 2: Over 12M, Russell 1000 retained its edge over Russell 2000. Similarly, Russell 1000 Growth outperformed Russell 1000 Value, and Russell 2000 Growth was slightly ahead of Russell 2000 Value after their Q3 performance.



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

Macro Drivers

In the US, disinflation continued in June, July and August, bolstering the case for the start of monetary easing. As rate cut expectations firmed up, treasury yields declined, and the Fed followed through with a hefty 50 bp cut to the federal funds rate in September. The US 10-year treasury yield ended the quarter 59 bps lower (Chart 1).

US growth also remained robust at 3.0% for Q2 and 2.5% expected for 2024 (up from 2.3% at the end of Q2). The US continued to be a bright spot among G7 peers (Chart 2).

Both declining yields and resilient growth were supportive of a broadening in the US equity rally as indicated by the relative outperformance of US small caps over large caps in Q3, albeit with higher volatility over the quarter (Chart 1).

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 and stayed there in Q3. The ISM Non-Manufacturing Composite has been relatively strong since the services rebound after the pandemic. The index rose to 54.9 in September helping to offset the gloom in manufacturing (Chart 3).

Oil continued its slide in Q3 despite OPEC+ output cuts and escalating geopolitical tensions in the Middle East. These supply side constraints were partly offset by surplus production out of the US. Energy stocks, primarily in the Oil, Gas & Coal sector, reflected the 17.0% drop in oil price over the quarter. Copper retreated early in the quarter only to surge at quarter-end (likely helped by the fresh package of liquidity easing measures out of China.) Copper ended Q3 up 5.1%. The broad commodity index was more-or-less flat for the quarter (Chart 4).

Chart 1: The US 10-yr treasury yield ended Q3 59 bps lower, supporting Russell 2000's outperformance of Russell 1000.



Chart 3: The US ISM Mfg index remained below 50 in Q3,

while	the Non-Mfg composite stayed relatively strong.	
120	R2000/R1000 (Rebased) US ISM Mfg (RHS) US Non-Mfg Composite (RHS)	70
100	7 MM	60
		50
80	\sim \sim	40
60		30

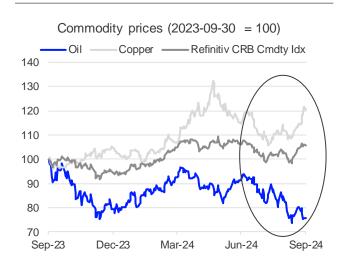
Sep-22

Chart 2: US Q2 2024 GDP ended at a robust 3.0%. US growth remains a bright spot among G7 peers.

	GDP (%)		
	QoQ	Poll	
period	24Q2	2024	
US	3.0	2.5	
Canada	2.1	0.9	
UK	1.8	1.1	
Germany	-0.3	0.2	
Eurozone	8.0	0.8	
Japan	2.9	0.9	
China	1.1	4.9	

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 Q3, oil was volatile and saw a decline of 17%, even as copper gained and the broad commodity index was flat.



Sep-23 Source: FTSE Russell and LSEG. All data as of September 30, 2024. Past performance is no guarantee of future results.

Sep-24

Sep-21

Sep-20

Sep-19

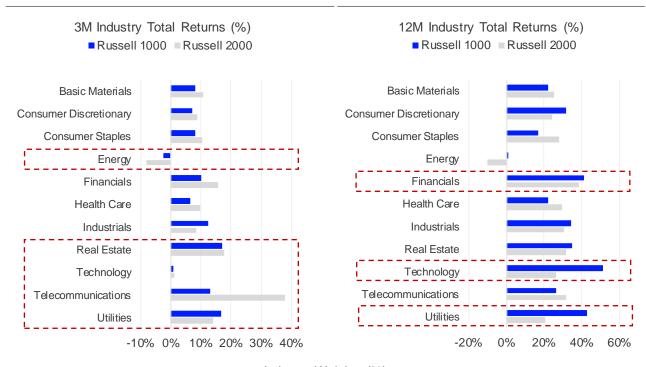
Industry Returns & Weights - Russell 1000 & Russell 2000

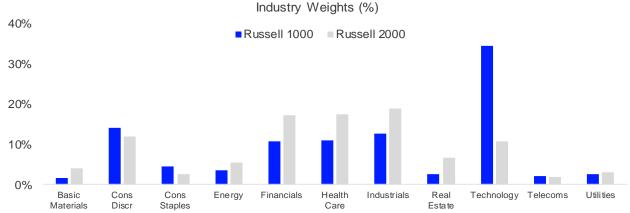
Amid a broadening equity rally, industry returns were mostly positive in Q3 in both large- and small-cap segments, except for Energy. Both cyclicals and defensives were among the leaders in performance.

- Within Russell 1000, Real Estate led, followed by Utilities, Telecoms, Industrials and Financials. Within Russell 2000, Telecoms outshone other industries, followed by Real Estate, Financials, Utilities and Basic Materials. Energy posted losses for the guarter and lagged the most in both size segments.
- Real Estate rebounded strongly on declining yields. It was the top-performing industry within Russell 1000, and second best performing within Russell 2000.
- Technology was only slightly up over Q3 in both size segments, lagging all industries except Energy. While AI
 enthusiasm and investment in AI technologies continue to buoy the industry, most tech stocks seemed to be priced
 for perfection raising questions about further upside.
- On the other hand, non-tech beneficiaries of the AI trend saw their outperformance sustained. For example, Utilities
 was the second best-performing industry within Russell 1000 and fourth best-performing within Russell 2000,
 boosted by the Electricity sector and surging electricity demand for AI computing needs.
- Over 12 months, most industries across the size segments posted positive returns. Large-caps outshone small-caps in all but Basic Materials, Staples, Health Care and Telecoms. Large-cap Technology, Utilities and Financials held sway in terms of 12M performance, followed closely by small-cap Financials.

Chart 1: In Q3, Real Estate, Utilities, Telecoms & Financials posted strong results across size segments. Tech & Energy lagged.

Chart 2: Over 12M, large-caps mostly outperformed small-caps with Tech, Utilities and Financials holding sway.





Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of September 30, 2024. Past performance is no guarantee of future results.

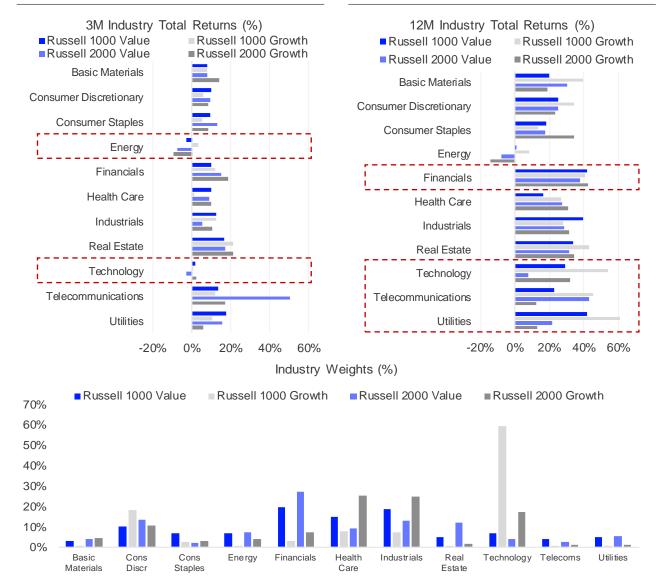
Industry Returns & Weights - Russell 1000 & Russell 2000 Growth & Value

Industry performance in the Russell style indices was mostly positive in Q3, with the exception of Energy and Technology in certain style and size segments.

- Within large-caps, Growth was hurt by lackluster performance within Tech that has a 60% weight in Russell 1000
 Growth. Large-cap Value benefited from strong performance within Utilities, Real Estate and Telecoms.
- Within small-caps, Value outperformed Growth helped by strong returns within Telecoms, Real Estate and Utilities.
 Small-cap Growth was hurt by losses in Energy and Tech's underperformance, second only to Energy's.
- Within Growth, small-caps beat large-caps in all but Industrials, Utilities, and Energy (where small-cap Growth companies posted losses, while large-cap Growth posted a small gain for the quarter).
- Within Value, again small-caps beat large-caps with greater outperformance in Telecoms, Financials and Staples, although small-cap Value companies posted losses within Energy and Tech.
- Over the 12-month timeframe, industry performance within the style indices was positive, with the exception of Energy within small-cap Value and Growth. Large-cap Growth beat small-cap Growth with the highest relative returns in Utilities and Telecoms. Similarly, large-cap Value significantly outperformed small-cap Value in Technology and Utilities.

Chart 1: In Q3, performance was broadly positive with a few exceptions in Energy and Technology.

Chart 2: Over 12M, large-cap Growth led notably in Utilities, Tech and Telecoms. Financials was in the top 5 across styles.



Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of September 30, 2024. Past performance is no guarantee of future results.

Russell 1000 Sector Contributions to Return*

Drilling deeper into Q3 performance within the 11 Russell 1000 industries:

- Real Estate was the best performing industry, with the bulk of industry returns coming from the REITs sector.
- Telecoms was the second best-performing industry where both Telecoms Equipment and Telecoms Service Providers contributed roughly equally to industry returns.
- Utilities was third, with the Electricity sector's contribution dominating industry returns. The Gas, Water & Multiutilities sector's contribution was also noteworthy.
- Energy lagged the most, with the Oil, Gas & Coal sector detracting substantially from industry returns.
- Technology lagged all but Energy, with both Software & Computer Services and Technology Hardware & Equipment contributing only modestly to industry returns, unlike over the last 12 months. The weakness in tech hardware was slightly more pronounced.
- Other notable sector contributions included Chemicals within Basic Materials, Investment Banking & Brokerage Services within Financials, and Industrial Support Services within Industrials.

Table 1: Real Estate, Telecoms and Utilities led industry returns in Q3 with notable contributions from REITs, Telecom Equipment and Telecom Service Providers, and Electricity. Oil, Gas & Coal detracted substantially from Energy's returns.

	Avg.	Q3 2024		Avg.	Q3 2024
Sector	Weight	Contrib.	Sector	Weight	Contrib.
Basic Material	Health Care				
Chemicals	59.7%	4.95%	Health Care Providers	18.5%	1.96%
Industrial Materials	5.9%	0.35%	Medical Equipment and Services	30.6%	2.59%
Industrial Metals and Mining	28.0%	0.77%	Pharmaceuticals and Biotechnology	50.8%	1.94%
Precious Metals and Mining	6.4%	1.59%	Industrials		
Consumer Discretionary			Aerospace and Defense	15.4%	2.10%
Automobiles and Parts	10.9%	2.27%	Construction and Materials	9.2%	1.31%
Consumer Services	5.3%	0.38%	Electronic and Electrical Equipment	8.1%	0.67%
Household Goods & Home Construction	3.5%	0.85%	General Industrials	14.8%	2.07%
Leisure Goods	2.9%	0.26%	Industrial Engineering	8.2%	1.14%
Media	11.2%	0.58%	Industrial Support Services	33.1%	4.24%
Personal Goods	4.3%	-0.14%	Industrial Transportation	11.4%	0.74%
Retailers	42.6%	2.36%	Real Estate		
Travel and Leisure	19.4%	1.45%	Real Estate Investment & Services Dev.	6.9%	1.55%
Consumer Staples		Real Estate Investment Trusts	93.1%	15.69%	
Beverages	27.9%	2.18%	Technology		
Food Producers	20.0%	2.01%	Software and Computer Services	48.8%	0.81%
Personal Care Drug & Grocery Stores	40.1%	1.99%	Technology Hardware and Equipment	51.2%	0.26%
Tobacco	11.9%	2.06%	Telecomunications		
Energy			Telecommunications Equipment	40.3%	8.88%
Alternative Energy	2.2%	0.25%	Telecommunications Service Providers	<u>59.7%</u>	9.63%
Oil, Gas and Coal	97.8%	-2.78%	Utilities		
Financials		Electricity	67.9%	13.84%	
Banks	29.7%	1.71%	Gas, Water and Multi-utilities	21.6%	3.13%
Finance and Credit Services	7.3%	0.96%	Waste and Disposal Services	10.5%	0.03%
Investment Banking and Brokerage Svcs	40.2%	4.59%			
Life Insurance	3.9%	0.62%			
Mortgage Real Estate Investment Trusts	0.5%	0.05%			
Non-life Insurance	18.5%	2.38%			

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 September 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 the Russell 1000 index over the quarter. Expected EPS growth declined for the Russell 2000 index over Q3, after rising over the previous quarter. (The 2-year forecast EPS growth is the expected growth rate of EPS over the two years from the next reported earnings.) The macro context for these forecasts is one of resilient US growth, easing input cost inflation and declining borrowing costs.

At the end of Q3, analysts expected Russell 1000 earnings growth of 15.6% over the next two years, higher than the 15.2% growth expected at end-June and similar to the 15.6% expected growth from one year ago. Russell 2000 forecast EPS growth declined to 18.2% from about 19.1% at end-June and 17.3% one year ago.

Revision ratios for both the Russell 1000 and the Russell 2000 indices declined over Q3 and turned negative. After improving over the last 2 years, revision ratios had stabilized around zero over the previous two quarters.

Chart 1: Forecast 2-year EPS growth for Russell 1000 was 15.6% at the end of Q3, on par with forecasts from one year ago.

Chart 2: The small-cap forward 2-year EPS growth declined to 18.2% over Q3, although it is higher than one year ago.

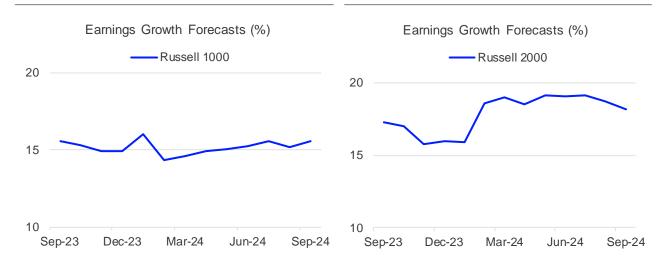
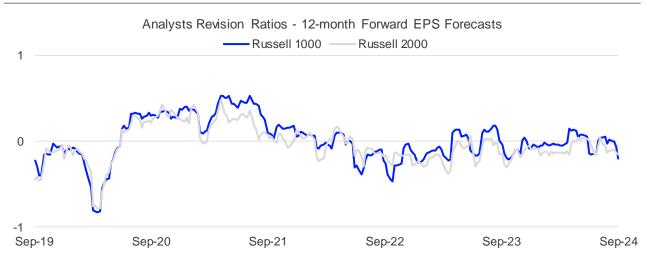


Chart 3: Revision ratios for the Russell 1000 and Russell 2000 steadily improved over the last 2 years. They had stabilized around zero over the first two quarters of 2024 but declined over Q3.



Source: FTSE Russell and LSEG. All data as of September 30, 2024. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q3 2024

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

The 2-year forecast EPS growth rose for Russell 1000 Growth over the quarter to 18.4% from 17.3% at the end of Q2. This was lower than the 18.2% expected growth from one year ago. EPS growth for the Russell 1000 Value was steady at 12.5% at the end of Q3, similar to the 12.5% estimated at end-June and slightly higher than the 12.3% forecast from one year ago.

For Russell 2000 Growth, the 2-year forecast EPS growth declined to 20.3% (from 22.6% at end-June and 21.9% one year ago) but rose for Russell 2000 Value to 16.0% (from 15.5% at end-June and 13.0% one year ago.)

The healthy EPS forecast numbers for the two Value cohorts may reflect their potential to benefit from a US policy rate easing cycle while US economic growth remains resilient.

However, over the quarter, earnings revision ratios within all size and style segments declined and turned negative.

Chart 1: EPS growth forecasts for Russell 1000 Growth and Value rose slightly over 12M.

Chart 2: Revision ratios declined over Q3 for the large-cap Growth and Value indices, more so for the Value cohort.

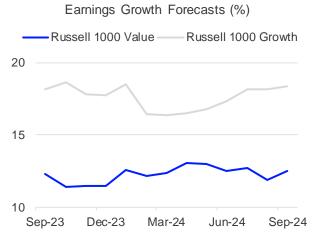


Chart 3: EPS growth forecasts rose markedly for Russell 2000
Value over 12M, while they dipped slightly for small-cap Growth.

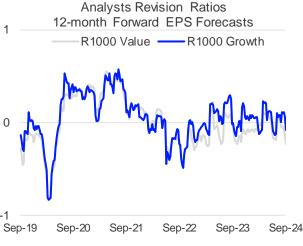
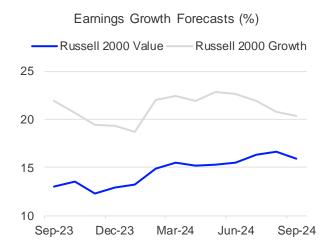
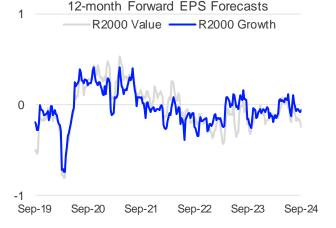


Chart 4: Revision ratios for both small-cap style indices declined over the quarter; more so for Russell 2000 Value.

Analysts Revision Ratios





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

FTSE Russell | Russell US Indexes Spotlight Q3 2024

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 1.27% (down slightly from 1.32% at end-June and 1.57% one year ago) and for Russell 2000 was 1.33% (down from 1.44% at end-June and 1.67% one year ago). By comparison, the pre-pandemic 2019 average of dividend yields for the Russell 1000 and Russell 2000 indices were 1.91% 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. However, it is worth noting that mature tech companies, and in particular the mega-caps such as Microsoft, Apple, Alphabet and Meta, pay dividends and have the potential to alter this trend.

Since 2021, dividend yields for the small-cap Value index have risen more significantly than for its large-cap Value counterpart. At quarter-end, the Russell 2000 Value index offered a dividend yield of 2.14% (down from 2.29% at end-June and from 2.61% one year ago). This is lower than its pre-pandemic 2019 average of 2.29%. The Russell 1000 Value index offered a dividend yield of 2.01% at quarter-end (down from 2.20% at end-June and 2.42% one year ago), again, 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%.

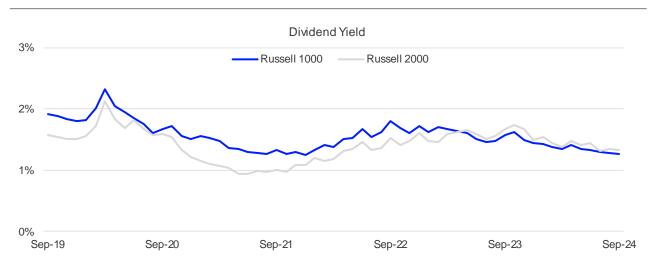
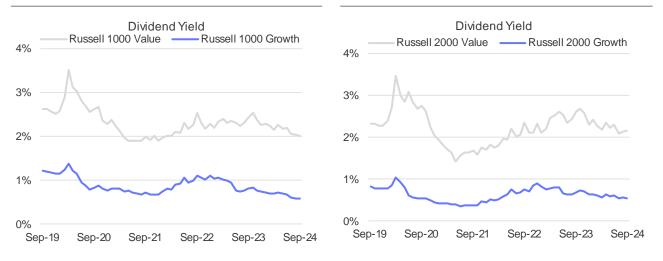


Chart 2: Russell 1000 Value offered a dividend yield of 2.01% at quarter-end, below its pre-pandemic 2019 average of 2.62%.

Chart 3: Russell 2000 Value offered a dividend yield of 2.14% at quarter-end, below its pre-pandemic 2019 average of 2.29%.



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

FTSE Russell | Russell US Indexes Spotlight Q3 2024

Valuation – 12-Month Forward P/E

Forward P/Es rose over the quarter for both the headline Russell indices and their style cohorts. Russell 2000 Growth and Value re-rated the most as the quarter saw a broadening of the US equity rally. This was in the context of higher or stable forecast earnings for most size and style segments, except for Russell 2000 and its Growth cohort. Over 12 months, forward P/Es rerated for all, and in particular the Russell 2000 and Russell 2000 Growth cohort.

The Russell 1000 was trading at 21.6x at quarter-end, above its 5-year (19.9x) and 10-year (18.5x) averages. The Russell 2000 was trading at 26.3x, also above its long-term averages of 26.2x over 5 years and 24.9x over 10 years.

The large-cap Growth and Value cohorts traded above their medium- and long-term averages at 28.6x and 16.9x, respectively, at quarter end. Small-cap Growth rerated to 39.7x, still below its long-term averages of 49.3x over 5 years and 40.8x over 10 years. Small-cap Value re-rated to 19.5x at quarter-end, above its 5- and 10-year averages of 18.2x and 18.5x, 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 rose over the quarter from 1.09x to 1.22x as small-caps outpaced large-caps over the quarter. The large-cap Growth premium over large-cap Value declined from 1.82x to 1.68x as Value beat Growth. However, the small-cap Growth premium over small-cap Value rose from 1.81x to 2.03x, despite small-cap Value outperforming small-cap Growth over the quarter.

Chart 1: Forward P/Es for Russell 1000 and Russell 2000 rose over 12 months and over Q3. The small-cap valuation premium rose over 12 months, and over Q3 as small-caps outpaced large-caps.

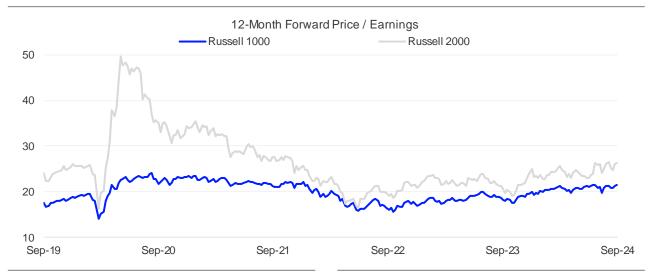


Chart 2: R1000 Growth's large premium vs its Value cohort narrowed over Q3, as large-cap Value beat large-cap Growth.

Chart 3: R2000 Growth's premium vs R2000 Value rose in Q3 but remained below long-term averages.





Source: FTSE Russell and LSEG. All data as of September 30, 2024. Price/Earnings ratio capped at 100%. Past performance is no guarantee of future results. FTSE Russell | Russell US Indexes Spotlight Q3 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 and higher interest rates since 2022. However, during Q3 2024, the uptick in the number of new IPO additions to the Russell family of indices over the previous quarter was sustained. Russell 1000 added one new name while Russell 2000 included 12 new names for a total of 13 IPO inclusions to the Russell family of indices. This was slightly lower than the 15 new names in Q2.

From an industry standpoint, out of 13 inclusions to the Russell US family of indices, six were in small-cap Health Care, two in small-cap Tech, and one each in small-cap Discretionary, Financials, Industrials and Utilities. Large-cap Real Estate added one name. 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 Q3 (on par with Q2 and eight in the same period one year ago.) Russell 1000 added one in Q3 (down from three last quarter but on par with the same period one year ago.)

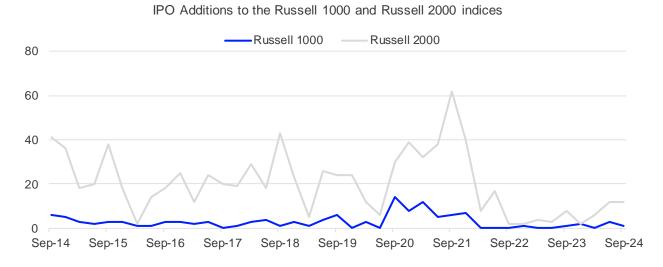
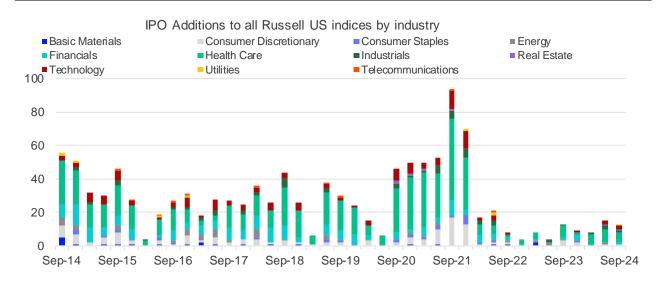


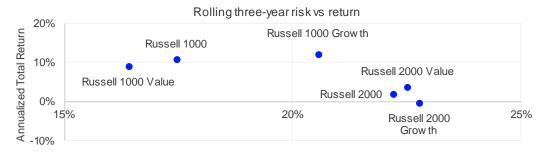
Chart 2: In Q3, there were six new Health Care names added to Russell 2000. Tech added two, and Discretionary, Financials, Industrials and Utilities each had one inclusion in the small-cap space. Large-cap Real Estate added one name.



Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark. All data as of September 30, 2024. Past performance is no guarantee of future results.

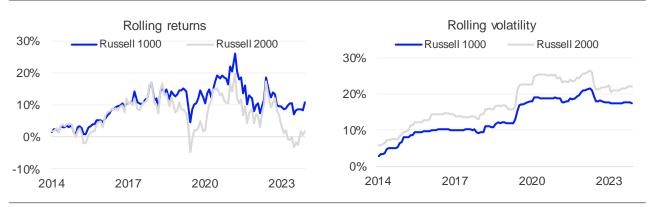
Return & Risk - Rolling Three-Year Patterns

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)

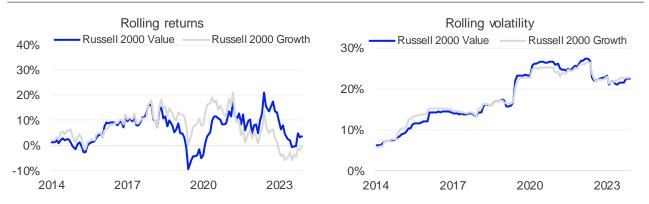
Both Russell 1000 and Russell 2000 saw a rise in rolling 3-year returns over the quarter, while risk remained stable.



Rolling returns for Russell 1000 Growth and Value also rose over the quarter, with slightly lower risk for Value.



Rolling returns rose and turned positive over Q3 for Russell 2000 Value and Growth, with marginally higher risk.



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

FTSE Russell | Russell US Indexes Spotlight Q3 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.