

Russell US Indexes Spotlight

QUARTERLY REPORT: JANUARY 2024

FOR PROFESSIONAL INVESTORS ONLY

Broad-based Q4 rally aids small-cap rebound; Growth dominates in 2023

Small-caps rebounded strongly in broad-based Q4 rally, supported by easing financial conditions and expectations of the end of aggressive rate hikes. Large-cap Growth continued to hold sway over its Value counterpart in Q4, preserving its massive outperformance for the year. Real Estate and small-cap Financials shone. Energy lagged badly, hurt by falling oil prices.

Highlights

Small-caps led in broad-based Q4 rally

Russell 2000 edged out the Russell 1000. Small cap Value outperformed the other style indexes. Large-cap Growth prevailed over its Value counterpart (pages 2-3).

Financials and Real Estate rebounded, Energy lagged

Easing financial conditions supported a strong rebound in Real Estate and small-cap Financials. A steep decline in the oil price hurt Energy broadly (pages 4-6).

EPS growth stabilized for large-caps

The EPS growth outlook stabilized for the Russell 1000, but declined modestly for the Russell 2000. They are up from year-ago levels for both indexes (page 7-8).

Dividend yields edged lower

Dividend yields edged lower over Q4, but are up from pandemic-era lows (page 9).

Valuation re-ratings continued

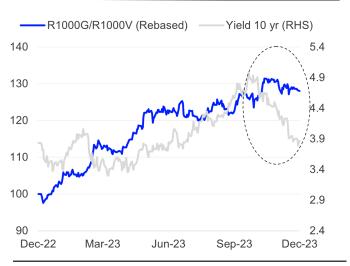
Forward P/Es expanded over Q4 and are at or above fiveyear averages for the Russell 1000 and its style cohorts, as well as Russell 2000 Value (page 10).

Russell IPO inclusions remained muted

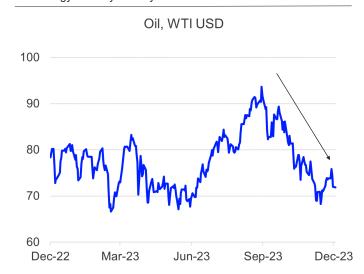
IPO inclusions in Russell indexes remained muted relative to long-term history (page 11).

Russell Indexes - Your index matters | FTSE Russell

Large-cap Growth outpaced large-cap Value in Q4 as US long yields declined.



Oil retreated steeply in Q4, hurting the Oil, Gas & Coal sector, and the Energy industry broadly.



Source: FTSE Russell and LSEG. Data as of December 31, 2023. 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.

Russell US Index Performance — Fourth Quarter 2023

Key Observations

In Q4, US stocks rallied with the return of risk-on sentiment in the market. As inflation continued to ease and the Fed held its policy rate, market expectation shifted toward the end of the 'higher-for-longer' regime and easing of financial conditions in 2024. Long yields peaked in late-October and declined over the quarter.

The resulting equity rally was broad-based but cyclical segments of the market benefitted more. The Russell 2000 rose 14% over the quarter versus the Russell 1000's 12% gain. Still, for 2023, the Russell 1000 index outperformed the Russell 2000 with a gain of 26.5% versus 16.9% for the small-cap index.

The Russell 1000 Growth index rose 14.2% in Q4, better than the R1000 Value and its small-cap Growth counterpart, but lower than the R2000 Value which gained 15.3% over the quarter. The Q4 performance added to large-cap Growth's enormous lead year-to-date and it finished 2023 with a gain of 42.7%, far outpacing its Value and small-cap style counterparts. Large-cap Growth's performance was boosted by the continued rally in large- and mega-cap tech stocks and other potential beneficiaries of the recent advances in artificial intelligence (AI). It may also have been helped by declining long yields that tend to benefit assets with longer-duration cashflows. Energy took a big hit in Q4 with a steep decline in oil prices. This hurt both small-cap style indexes and large-cap Value more given their larger tilt toward energy than the Russell 1000 Growth index.

Chart 1: In Q4, the Russell 2000 modestly outperformed its large-cap counterpart, as did Russell 2000 Value relative to the other style cohorts. However, over 12M, Russell 1000 Growth maintained its enormous lead.

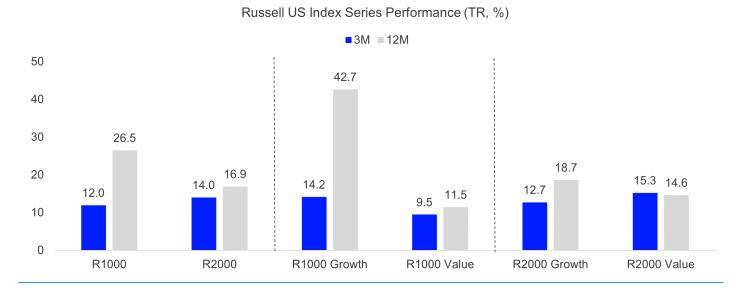
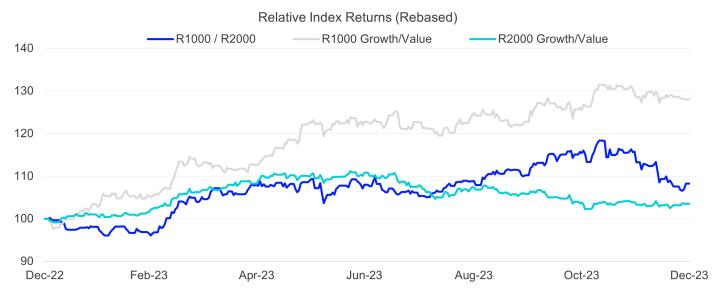


Chart 2: The Russell 1000 retained its edge over the Russell 2000 for the year. Large-cap Growth continued to dominate its Value counterpart, propelled by Big Tech and other beneficiaries of new Al technologies. Despite small-cap Value's Q4 showing, it underperformed its Growth counterpart for the year.



Source: FTSE Russell and LSEG. All data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only

Macro Drivers – Fourth Quarter 2023

In Q4, markets rallied with the return of risk-on sentiment. Recession fears from earlier in the year, stemming from the Fed's aggressive rate hiking cycle, did not guite materialize. Inflation continued to ease and the Fed maintained its policy rate at levels last set in July. At year-end, market expectation shifted toward an end to the 'higher-for-longer' monetary policy regime, and market focus turned toward the expected magnitude of rate cuts in 2024.

US long yields peaked in late-October and declined over 70 bps for the guarter, buoying long-duration asset valuations. The techheavy, low dividend yielding Russell 1000 Growth outpaced Russell 1000 Value early in the quarter as long yields began their decline (Chart 1).

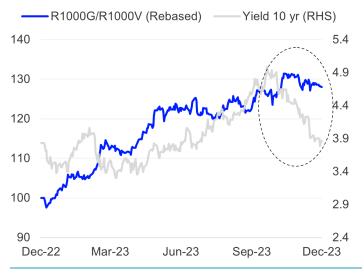
Consensus expectations for 2023 US GDP growth stand at 2.4%. Growth is expected to be lower in the US and several regions globally in 2024, relative to the last two years. The US ISM Manufacturing index weakened in the first two months of Q4, before stabilizing in contractionary territory (below 50). However, declining inflation, easing financial conditions and improving sentiment pushed the more economically sensitive small-caps ahead of their large-cap peers in the last month of the quarter (Chart 2 and Chart 3).

Oil retreated steeply in Q4, posting a 20.8% loss for the quarter and hurting the energy industry broadly (Chart 4).

US ISM Mfg (RHS)

Chart 1: R1000 Growth outpaced R1000 Value as US long yields declined over Q4.

Chart 2: Consensus growth estimates are lower in 2024 relative to the last two years.



Latest Consensus GDP Forecasts (%, Dec. 2023)									
	2022		2023			2024			
US	2.1		2.4			1.2			
Canada	3.5		1.1			0.7			
UK	4.1		0.5			0.4			
Eurozone	3.5		0.5			0.6			
Japan	1.3		1.6			0.9			
China	2.8		5.0			4.4			

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

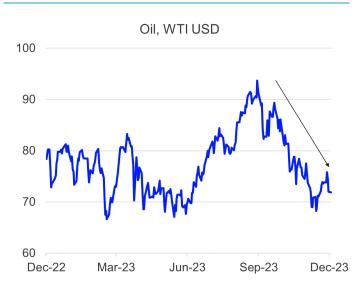
Chart 3: Despite manufacturing woes, the R2000 rallied at quarter-end with improving sentiment for cyclicals.

R2000/R1000 (Rebased) 120 70 60 100 80

Dec-21

Dec-22

Chart 4: Oil retreated steeply in Q4, hurting the energy industry broadly.



Source: FTSE Russell and LSEG / International Monetary Fund World Economic Outlook Reports / Organization for Economic Cooperation and Development (OECD) and The Conference Board. Data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

Dec-23

Dec-20

Dec-19

60

Dec-18

Industry Returns and Exposures - Russell 1000 & Russell 2000

Key observations

Amid a broad-based rally in Q4, Energy retreated notably, hurt by the steep decline in oil prices over the quarter. With the easing of financial conditions, and in particular, the decline of long yields, Real Estate bounced back strongly. Russell 2000 Financials was the best-performing industry.

- In Q4, larger gains in Health Care, Financials and Staples helped the Russell 2000 modestly outperform the Russell 1000.
- Over 12M, large-caps in Technology far outpaced their small-cap counterparts, as did large-caps in Telecoms and Discretionary, helping the Russell 1000 far outperform the Russell 2000 for the year.
- Energy was the worst performer for the quarter for both indexes, followed by Staples for the Russell 1000 and Utilities for the Russell 2000, all of which are defensive industries.
- For 2023, Utilities lagged the most in both large— and small-caps, followed by Staples for the Russell 1000 and Telecoms for the Russell 2000.

Chart 1: Larger gains in Health Care, Financials & Staples gave the Russell 2000 a slight edge in Q4.

Chart 2: The R1000's outperformance in Tech, Telecoms & Discretionary helped it finish ahead of the R2000 in 2023.



Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

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

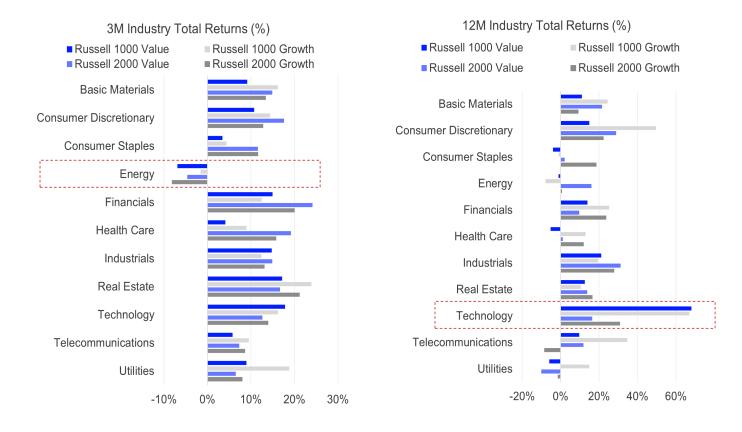
Key observations

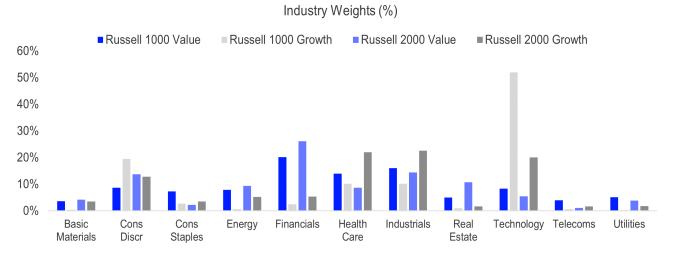
Small-cap Value outperformed its Growth counterpart, as well as the large-cap Growth and Value indexes over the quarter in a rally that benefitted cyclical segments of the market more.

- Within large caps, Growth fared better than Value in 8 of 11 industries in Q4, but Value posted better performance within Financials, Industrials and Technology. Over 12M, Value outperformed Growth in Industrials, Real Estate and Technology, while posting a smaller loss in Energy.
- Within small-caps, Value held up better than Growth in 7 of 11 industries in Q4, led by Discretionary, Financials and Energy (with smaller loss). But over 12M, Growth outpaced Value in 6 of 11 industries, with relative gains in Staples, Technology and Financials helping most.
- Within Growth, large-cap Growth outperformed small-cap Growth in 7 of 11 industries in Q4, led by Utilities, Energy (with smaller loss) and Materials. Over 12M, large-cap Growth's outperformance was led by Telecoms, Tech & Discretionary.
- Within Value, small-cap Value outperformed large-cap Value in 8 of 11 industries in Q4, led by Health Care, Financials and Staples. Over 12M, small-cap Value was helped by outperformance in Energy, Discretionary and Materials.

Chart 1: Amid a broad-based rally in Q4, Energy detracted from the performance of all Russell style indexes.

Chart 2: For 12M, Technology boosted large-cap performance across Growth and Value styles.





Source: FTSE Russell and LSEG. All data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

Russell 1000 Sector Weights & Contributions to Return*

Key observations — Fourth Quarter 2023

Drilling deeper into the sector performances within the 11 Russell 1000 industries in Q4, we make the following observations:

- Real Estate was the best-performing industry, with the bulk of contributions to return coming from REITs.
- Technology was second best-performing with balanced contributions from Software and Tech Hardware.
- Within Financials, which rounds up the top three industries, Banks and Investment Banking & Brokerage Services contributed substantially.
- Retailers made substantial contributions to returns in Discretionary; Chemicals and Industrial Metals & Mining made notable additions to returns for Materials; and Electricity boosted returns for Utilities.
- Among the lagging industries, Energy was the worst-performing, with Oil, Gas & Coal being the main detractor.
- Staples struggled as the next worst-performing industry, but saw modest contributions from all sectors.

Table 1: Sectors within Real Estate, Technology & Financials were the biggest contributors to large-cap performance in Q4. Oil, Gas and Coal detracted substantially from the Energy industry's returns.

	Avg.	Q4 2023							
Sector	Weight	Contrib.							
Basic Material									
Chemicals	60.5%	4.54%							
Industrial Materials	5.1%	0.45%							
Industrial Metals and Mining	27.2%	4.28%							
Precious Metals and Mining	7.2%	0.79%							
Consumer Discretionary									
Automobiles and Parts	11.7%	-0.09%							
Consumer Services	4.6%	0.97%							
Household Goods & Home Construction	2.8%	0.77%							
Leisure Goods	2.9%	0.43%							
Media	10.9%	1.68%							
Personal Goods	5.6%	0.95%							
Retailers	42.0%	6.14%							
Travel and Leisure	19.6%	2.66%							
Consumer Staples									
Beverages	28.7%	0.88%							
Food Producers	20.4%	0.35%							
Personal Care Drug & Grocery Stores	40.5%	2.39%							
Tobacco	10.4%	0.15%							
Energy									
Alternative Energy	2.1%	0.05%							
Oil, Gas and Coal	97.9%	-6.16%							
Financials									
Banks	29.2%	6.38%							
Finance and Credit Services	7.2%	1.38%							
Investment Banking and Brokerage Svcs	39.6%	5.37%							
Life Insurance	4.3%	0.35%							
Mortgage Real Estate Investment Trusts	0.6%	0.06%							
Non-life Insurance	19.0%	1.23%							

	Avg.	Q4 2023							
Sector	Weight	Contrib.							
Health Care									
Health Care Providers	19.8%	1.04%							
Medical Equipment and Services	30.7%	2.92%							
Pharmaceuticals and Biotechnology	49.6%	2.39%							
Industrials									
Aerospace and Defense	12.5%	2.29%							
Construction and Materials	6.7%	1.17%							
Electronic and Electrical Equipment	8.2%	0.87%							
General Industrials	16.2%	2.28%							
Industrial Engineering	8.6%	0.91%							
Industrial Support Services	34.9%	4.69%							
Industrial Transportation	12.8%	1.45%							
Real Estate									
Real Estate Investment & Services Dev.	6.8%	1.40%							
Real Estate Investment Trusts	93.2%	16.96%							
Technology									
Software and Computer Services	57.6%	9.36%							
Technology Hardware and Equipment	42.4%	7.58%							
Telecomunications									
Telecommunications Equipment	40.0%	2.28%							
Telecommunications Service Providers	60.0%	4.92%							
Utilities									
Electricity	66.2%	5.98%							
Gas, Water and Multi-utilities	23.2%	1.87%							
Waste and Disposal Services	10.6%	1.60%							

Source: FTSE Russell. *Indexes data shown here are from the Russell Capped Index Series, except for the Real Estate Industry. Data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

EPS Growth Outlook and Revision Cycle – Russell 1000 & Russell 2000

Consensus 2-year EPS growth forecasts stabilized for the Russell 1000 over the last year but they were slightly lower at the end of Q4 from the previous quarter. Forecasts for the Russell 2000 declined modestly over the quarter, possibly reflecting lower expectations for US domestic growth in 2024 and the benefits of lower input costs already priced in.

Analysts are now anticipating Russell 1000 earnings growth of 14.9% over the next 24-month period, down from 15.6% in Q3, but up dramatically from a low of 10% in December 2022 (Chart 1). Russell 2000 forecasts have also risen over the past year, but have declined since peaking in Q3 with consensus pegging 2-year EPS growth at 16% at year-end (Chart 2).

Earnings estimate revision trends improved briefly during the quarter for the large-cap index but have mostly been slightly negative over the quarter for both size benchmarks. Over the year, revision ratios for both indexes have improved and stabilized around zero at year-end (Chart 3).

Chart 1: Russell 1000 2-year EPS growth forecasts declined modestly over Q4 to 14.9%.

Chart 2: The 2-year EPS growth forecast for Russell 2000 declined over Q4 to 16%, but is up over 2023.

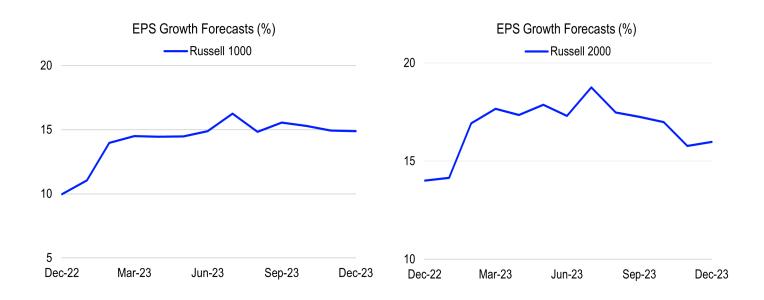


Chart 3: Estimate revisions for the Russell 1000 and Russell 2000 have improved from one year ago, but stabilized around zero at year-end.



Source: FTSE Russell and LSEG. All data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only

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

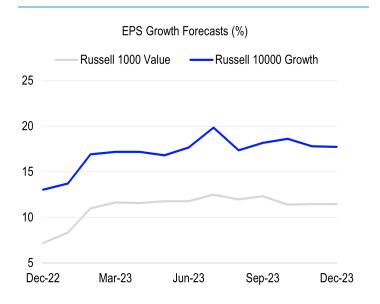
As in the case of the two size benchmarks, the earnings growth outlook for the Russell US style indexes has also improved in 2023, although they stayed flat or declined modestly over Q4.

At year-end, consensus pegged 2-year EPS growth for the Russell 1000 Growth index at 17.7%, down from 18.2% at the end of Q3, but up from estimates as low as 13% last December. Analysts expect 2-year EPS growth of around 11.5% for Russell 1000 Value, well above year-ago projections of 7.2% (Chart 1). Earnings estimate revisions to the Russell 1000 Growth index stabilized to the upside later in the quarter but have been more pessimistic for Russell 1000 Value (Chart 2).

The earnings outlook for the small-cap style indexes declined over Q4. Consensus 2-year EPS growth forecast for Russell 2000 Growth was at 19.3% at the end of Q4, down from nearly 22% the previous quarter, but up considerably from a low of 16.6% one year ago. Upgrades to small-cap Value earnings forecasts have been less dramatic, with 2-year EPS now expected to grow at around 13% versus a low of 11.4% last December (Chart 3). Earnings estimate revisions have improved over the year for both small-cap style indexes but stabilized below zero at year-end (Chart 4).

Chart 1: 2-year EPS growth forecasts have risen above year -ago levels for both large-cap styles.

Chart 2: Estimate revisions to Russell 1000 Growth were positive at quarter-end, but below zero for its Value cohort.



Analysts Revision Ratios
12-month Forward EPS Forecasts

R1000 Value —R1000 Growth

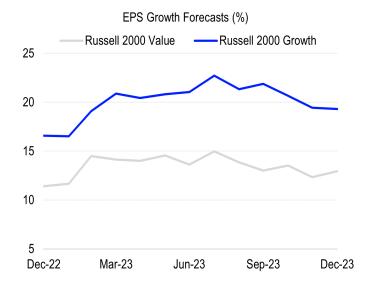
O

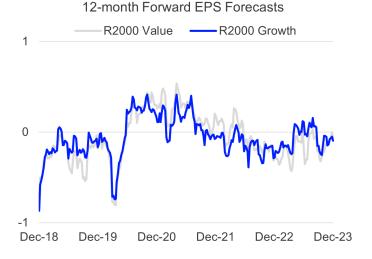
Dec-18 Dec-19 Dec-20 Dec-21 Dec-22 Dec-23

Chart 3: 2-year EPS growth forecasts declined for both small-cap styles in Q4, though they are up from a year ago.

Chart 4: Though improved since last year, revision ratios turned negative for both small-cap style indexes in Q3.

Analysts Revision Ratios





Source: FTSE Russell and LSEG. All data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

Trailing 12-Month Dividend Yields – Fourth Quarter 2023

Dividend yields have steadily risen across the flagship Russell US Indexes over the past year as corporate profitability and cash flows have normalized from the depressed Covid-era levels. Even so, only the Russell 2000 and its Value offshoot have seen their dividend yields surpass their five-year averages at year-end.

Value indexes typically pay higher dividend yields than their Growth counterparts, an outgrowth of the former's bigger weights in traditionally steadier and more generous dividend payers among Telecom, Utilities and Financial companies, and far smaller weights in Technology and other higher-growth companies that tend to pay little or no dividends.

Dividend yields have increased for the Russell 1000 and Russell 2000 since their Q2 2021 troughs (Chart 1), though they have declined over the quarter. At year-end, both size benchmarks offered dividend yields of around 1.4%-1.5%, down from 1.6%-1.7% a year ago.

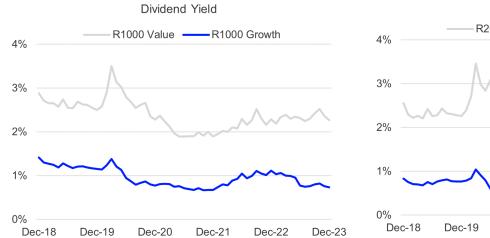
Dividend yields for both Value indexes have risen more significantly than for their Growth counterparts since 2021, particularly among small-caps, even though they declined across the board over the last quarter (Charts 2 and 3). At year-end, the Russell 2000 Value index offered a dividend yield of 2.31%, marginally higher than the 2.27% of the large-cap Value index.

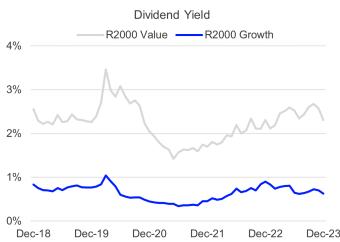
Chart 1: Both large and small-cap indexes have seen dividend yields stabilize over the past year and ease modestly in Q4. Over the last two quarters, dividend yields for the Russell 2000 have been marginally higher than for the Russell 1000.



Chart 2: The dividend-yield gap between large-cap Value & Growth stabilized in Q4, after expanding during the year.

Chart 3: Russell 2000 Value also trimmed its dividend yield in Q4, offering 2.3% at year-end.





Source: FTSE Russell and LSEG. Data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

Valuation Comparisons – 12-Month Forward P/Es

The risk-on rally in Q4 saw forward P/Es expand sharply over the quarter across size and style benchmarks, but particularly for the Russell 2000, which was likely impacted by lower EPS growth forecasts over the quarter. P/Es are at or above their five-year averages for the Russell 1000 and its Value and Growth cohorts, as well as the Russell 2000 Value index.

The Russell 2000 currently trades at 24.9 times 12-month EPS forecasts, up sharply from 20.7 at the end of Q3 (Chart 1). The Russell 1000's multiple expansion was more modest, ending the quarter at 19.9, up from 18.1 at the end of Q3. The valuation gap between the two indexes has expanded once again after narrowing over the previous quarter. The small-cap premium is still below its five-year average, and well below the highs seen during the post-pandemic reopening euphoria.

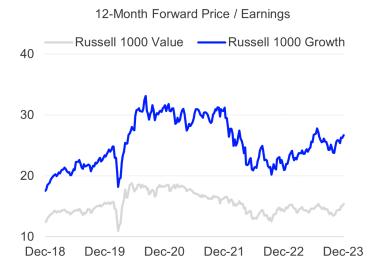
Forward multiples have also climbed across the style indexes this year and particularly in Q4 (Charts 2 and 3). At year-end, the large- and small-cap Growth indexes traded at 26.7 and 36.1, respectively, and their Value counterparts at 15.4 and 19.2, above end-Q3 levels. Reflecting its huge outperformance this year, large-cap Growth traded above its five— and ten-year averages (25.4 and 22.2, respectively). Though Growth typically trades at a premium to Value, the valuation gap between the large-cap style indexes has expanded with the outperformance of Big-Tech-driven growth stocks this year.

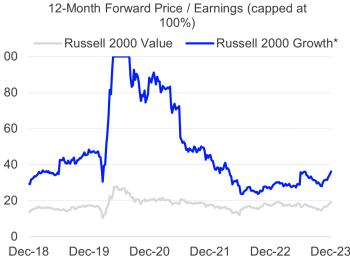
Chart 1: Forward P/Es for both the Russell 1000 and Russell 2000 expanded in Q4 after stabilizing over the last year, particularly for the small-cap index. Russell 1000 forward P/E is above its 5-year and 10-year averages.



Chart 2: R1000 Growth widened its already huge premium vs its Value cohort this year.

Chart 3: R2000 Growth & Value premia also widened in Q4 with the Value cohort surpassing its long-term averages.





Source: FTSE Russell and LSEG. Data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

IPO Additions to Russell US Indexes – Fourth Quarter 2023

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 in eligible new IPO additions over the last two years has been particularly dramatic (Chart 1), a likely effect of rising market volatility. IPO additions for the Russell 1000 increased slightly to two new additions in Q4, from one in Q3. For the Russell 2000 it decreased to two newcomers, from eight in the previous quarter, but was on par with the same period a year ago. Looking at the broader Russell US index universe, including the Russell Micro index, in Q4, Financials picked up three new additions, followed by two each in Health Care and Discretionary, and one each in Staples and Technology (Chart 2). For more information, see Russell US Index IPO additions and reports | FTSE Russell.

Chart 1: The Russell 1000 and Russell 2000 indexes added two newcomers each in Q4 amid the sluggish record for eligible new IPO addition over the past several quarters.

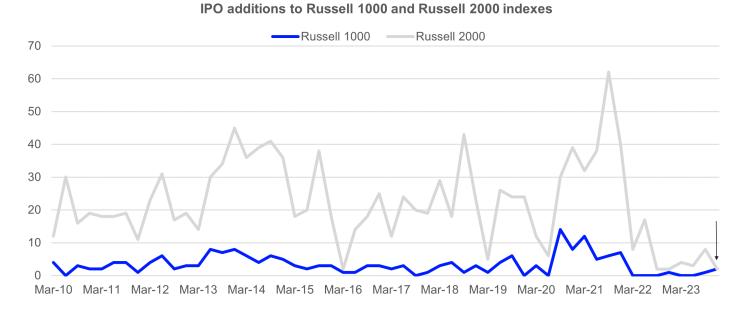
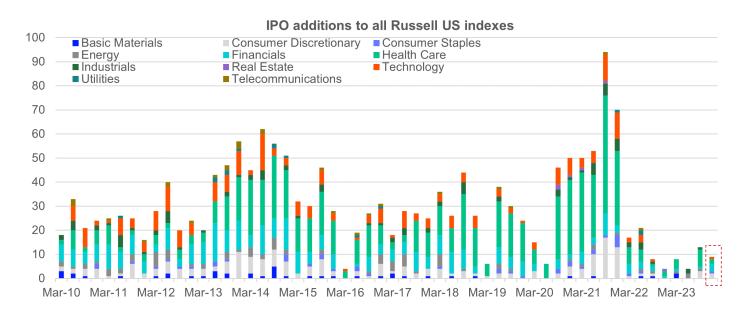


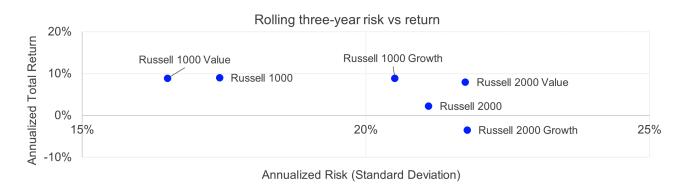
Chart 2: In Q4, there were three new IPO additions to Financials. The Russell indexes also added new names in Health Care, Discretionary, Staples and Technology.



Source: FTSE Russell and LSEG. Based on Industry Classification Benchmark (ICB) data as of December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only.

Return & Risk - Rolling Three-Year Patterns

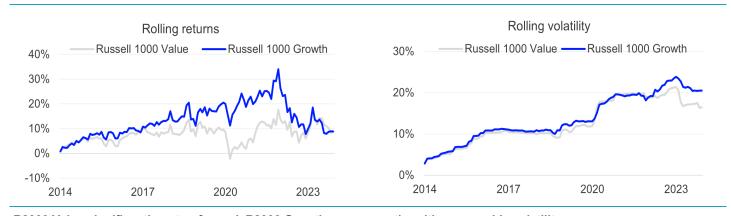
In the most recent 3-year period, Russell 1000 outpaced Russell 2000 with far less risk, as did the large-cap Growth index versus its small-cap peer. Russell 1000 Value returned slightly more than Russell 2000 Value with much lower risk.



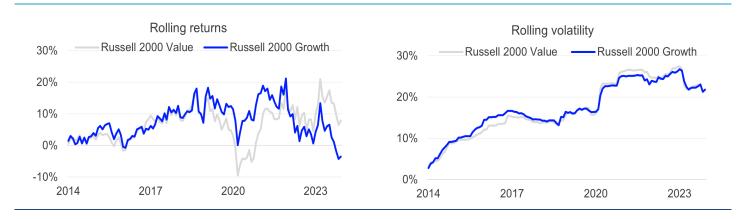
R1000 has widened the outperformance over R2000 recently with its historically lower volatility.



R1000 Growth closed the recent performance gap with its Value cohort, but has become relatively more volatile since 2022.



R2000 Value significantly outperformed R2000 Growth more recently, with comparable volatility.



Source: FTSE Russell and LSEG. All data through December 31, 2023. Past performance is no guarantee of future results. Please see the end for important legal disclosures. For professional investors only

Global Investment Research Market Maps



Receive all research reports

Global Investment Research reports offer investors timely capital-market analysis and insights across asset classes, regions, currencies, industries and styles for better investment decision-making. Subscribers are notified by email when each report is published.

Subscribe now: Market Maps Registration

To learn more, visit ftserussell.com; email info@ftserussell.com or call your regional Client Service Team office:

EMEA +44 (0) 20 7866 1810

Global Investment Research

North America +1 877 503 6437

GlobalInvestmentResearch@lseg.com

Asia Pacific

Hong Kong +852 2164 3333 Tokyo +81 3 4563 6346 Sydney +61 (0) 2 8823 3521 **Author**

Mark Barnes

Head of Global Investment Research, Americas

Mark.Barnes@lseg.com

© 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 reserved.

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.

Source: Equity markets data is based on the following: FTSE All-World® (World), FTSE All-Share® (UK), FTSE 100(UK large caps) FTSE 250 (UK mid caps), Russell 2000® (US small caps), Russell 1000® (US large caps), FTSE World ex UK, FTSE Europe ex UK (Eurozone), FTSE World ex US, FTSE Japan, FTSE Asia Pacific ex Japan and FTSE Emerging (emerging markets) Indexes.