

# Large-Cap Sustainable Growth

## QUARTERLY STRATEGY UPDATE

Fourth Quarter 2018

### COMPOSITE PERFORMANCE (%)

	COMPOSITE GROSS OF FEES	COMPOSITE NET OF FEES	RUSSELL 1000® GROWTH INDEX
3 MOS.	-12.16	-12.27	-15.89
1 YR.	5.33	4.77	-1.51
3 YR.	13.14	12.55	11.15
5 YR.	12.02	11.42	10.40
ITD (12/31/2009)	15.29	14.72	13.08

The composite performance shown above reflects the Brown Advisory Large-Cap Sustainable Growth Composite, managed by Brown Advisory Institutional. Brown Advisory Institutional is a division of Brown Advisory LLC, and Brown Advisory Institutional is a GIPS compliant firm. Please see the end of this for a GIPS compliant presentation.

**KARINA FUNK, CFA**  
Portfolio Manager

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Portfolio Manager



## Review & Outlook

During the fourth quarter, the strategy outperformed its benchmark, the Russell 1000® Growth Index. Strong stock selection in information technology and materials more than offset underperformance in consumer discretionary and industrials. The strategy also outperformed for the calendar year 2018. Many of our holdings in information technology, materials and health care were particularly additive throughout the year.

The broader equity markets performed quite poorly in the fourth quarter. Investor sentiment has turned exceedingly negative. Trade tensions, falling commodity prices and slower Chinese economic growth are just a few of the myriad of worries being priced into the market, in our view. While the U.S. economy appears to be in good shape for now, many investors foresee a recession occurring in the next few years, and valuation multiples have corrected meaningfully to reflect this view.

We deploy a number of strategies to manage through periods of economic difficulty. As valuations become more attractive, we focus on “upgrading” the portfolio by redeploying capital toward the long-term secular winners that, up until this time, have been overly expensive, in our view. We used this strategy in the fourth quarter to take advantage of pullbacks in **Illumina** and **Aspen Technology**—two companies we have been following for years but, in our opinion, have been overly expensive until this past quarter. We discuss these two new additions in more detail later in the commentary.

Secondly, given our ownership period is typically many years, we inevitably will run into periods of slower end market growth during our holding period. When faced with these situations, our approach is to understand if our investment thesis is still intact despite the end market weakness. If the answer is yes, we typically will add to the position. During the past quarter, we followed this strategy and added to many of our names on pullbacks, including **Intuit**, **Verisk** and **Fortive**. We also added to **Idexx Laboratories** and **A. O. Smith** for the first time in many quarters.

Finally, it is worth noting that as a rule, we look for consistent, stable growth companies that have a history of delivering solid growth over a market cycle. As a result, we tend to avoid the fastest-growing names in the market that may disproportionately suffer in a slower macro environment. This discipline has served us well in past periods of economic stress, and the fourth quarter was no exception. In fact, since the strategy’s inception, we have added most of our outperformance in periods of market weakness.

Turning to the results of the quarter, our strongest sector was information technology, and **Red Hat** was our best-performing name. In late October, IBM announced its intention to acquire Red Hat for a 60% premium. **American Tower** and **Ball Corporation** also had strong quarterly results, and both stocks performed well in the period. On the downside, **Amazon** was our worst-performing name during the period, which led to our underperformance in consumer discretionary. The pullback in Amazon is discussed later in this report. We remain very favorable toward the company’s fundamental outlook.

As previously mentioned, during the quarter, we added Illumina, which is a leading developer of life science tools and integrated systems for the analysis of genetic variation and function. The company provides sequencing and array-based solutions for genotyping and gene expression profiling of DNA and RNA. Illumina’s sustainable business advantage is its ability to drive the efficiency and productivity of diagnostics and therapeutics within the health system. The increased emphasis on preventive molecular medicine should help advance a new era of precision health care. Furthermore, identifying desirable traits in plants and animals should lead to healthier and more productive crops and livestock.

Aspen Technology is a provider of process optimization and asset performance management software to the process industries. Its solutions seek to improve the competitiveness and profitability of its customers by increasing throughput, energy efficiency and production yields, and by reducing unplanned downtime. Aspen is a market leader and has amassed deep domain expertise over the last 35 years.

We remain fully invested and disciplined in our process of finding investment opportunities at the intersection of strong fundamentals, sustainable business advantages and attractive valuation. This philosophy has served us well over the last nine years, and we believe it will continue to do so in the years ahead. **B**

### REP. ACCOUNT CHARACTERISTICS

	LARGE-CAP SUSTAINABLE GROWTH REP. ACCT.	RUSSELL 1000® GROWTH INDEX
Wtd. Avg. Market Cap.	\$161.3B	\$247.4B
EV/FCF (FY2 Est.)	23.8x	27.1x
Name Turnover (3 YR Avg.)	21.9%	--

### REP. ACCOUNT TOP 10 PORTFOLIO HOLDINGS

SECURITY	% PORTFOLIO
Microsoft Corp.	5.0
American Tower Corp.	4.8
Danaher Corp.	4.5
Amazon.com, Inc.	4.4
Visa, Inc.	4.2
Alphabet, Inc. Class A	4.2
UnitedHealth Group, Inc.	4.2
Thermo Fisher Scientific, Inc.	4.1
Intuit, Inc.	3.8
Ecolab, Inc.	3.5
<b>TOTAL</b>	<b>42.7</b>

Please see disclosure statements at the end of this presentation for additional information and for a complete list of terms and definitions.

## Sector Diversification

- Sector allocation in both absolute and relative terms did not change meaningfully during the quarter.
- Consistent with prior quarters, the portfolio is overweight industrials and underweight consumer staples, energy and financials. The portfolio is also underweight communication services and overweight health care and materials. We do not use sector rotation as a driver of return; our sector weightings are primarily determined by where we find opportunities in our bottom-up stock selection process.
- As we have previously noted, many of our industrial and information technology holdings could be categorized within other sectors. Several of our industrial firms primarily serve in the health care sector, while other technology holdings are involved in financial services.

SECTOR	LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT (%)	RUSSELL 1000® GROWTH INDEX (%)	DIFFERENCE (%)	LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT (%)	
	Q4 '18	Q4 '18	Q4 '18	Q3 '18	Q4 '17
Communication Services	4.30	11.93	-7.63	6.72	8.88
Consumer Discretionary	13.09	15.14	-2.05	13.48	10.00
Consumer Staples	2.46	6.04	-3.58	2.01	2.55
Energy	--	0.76	-0.76	--	--
Financials	--	4.40	-4.40	--	--
Health Care	24.54	14.28	10.25	22.48	19.82
Industrials	13.47	11.83	1.64	14.59	19.10
Information Technology	30.81	31.46	-0.65	31.01	28.96
Materials	6.37	1.84	4.54	5.62	6.04
Real Estate	4.96	2.32	2.64	4.11	4.65
Utilities	--	--	--	--	--

## Quarterly Attribution Detail by Sector

- It was a rough quarter across all sectors in the market, and our one real estate holding (American Tower) led to the only positive sector performance on an absolute and relative basis. American Tower is classified as a real estate investment trust since it owns, operates and develops communications real estate, even though its customers are all in the telecommunication services industry.
- Information technology was our strongest sector. Red Hat was the primary reason, with good relative performance from **Monolithic Power Systems**, **Visa** and **Intuit**.
- Our largest sector overweight is health care, where we are nearly twice the benchmark weight. Strong results from **UnitedHealth**, **Thermo Fisher Scientific** and **Danaher Corporation** led to relative outperformance within this sector.
- Our underweight in communication services proved helpful to overall performance, as the sector declined by double digits in the broad market. Conversely, our underweight in consumer staples hurt our relative performance, given the sector as a whole declined by only mid-single digits and outperformed the broader market.

SECTOR	LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT		RUSSELL 1000® GROWTH INDEX		ATTRIBUTION ANALYSIS		
	AVERAGE WEIGHT (%)	RETURN (%)	AVERAGE WEIGHT (%)	RETURN (%)	ALLOCATION EFFECT (%)	SELECTION AND INTERACTION EFFECT (%)	TOTAL EFFECT (%)
Communication Services	6.03	-14.03	11.81	-17.30	0.05	0.18	0.24
Consumer Discretionary	12.83	-21.67	15.05	-17.17	--	-0.72	-0.72
Consumer Staples	2.18	-2.47	5.92	-6.81	-0.35	0.07	-0.28
Energy	--	--	0.85	-28.84	0.11	--	0.11
Financials	--	--	4.37	-11.94	-0.20	--	-0.20
Health Care	24.00	-10.47	14.03	-12.14	0.42	0.42	0.84
Industrials	13.71	-17.48	11.96	-16.59	-0.04	-0.10	-0.14
Information Technology	30.27	-11.37	32.02	-18.82	0.05	2.62	2.67
Materials	6.19	-1.44	1.77	-12.01	0.16	0.56	0.72
Real Estate	4.79	9.45	2.21	-1.83	0.31	0.45	0.76
Utilities	--	--	--	--	--	--	--
<b>Total</b>	<b>100.00</b>	<b>-11.89</b>	<b>100.00</b>	<b>-15.89</b>	<b>0.51</b>	<b>3.48</b>	<b>4.00</b>

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## Quarterly Contribution to Return

- IBM offered to purchase Red Hat for \$34 billion in the quarter, a roughly 60% premium to the previous day's price, making it the largest software acquisition ever. IBM's big move to expand its capabilities in open-source software makes a lot of sense to us, and we do not believe a higher offer is likely. We therefore sold our Red Hat shares in the quarter and redeployed the proceeds into names where we see more upside.
- American Tower exceeded revenue expectations in the quarter, sending its shares higher. We believe that strong revenue growth should continue given a very active spending cycle by all four of the big carriers going forward. The company's portfolio of tower assets around the world will be critical to meeting communications and bandwidth demands over the long term. While we trimmed the position a bit on strength, it remains a top 10 holding in the strategy.
- Ball Corporation posted a quarter that tracks to our positive thesis on the company, and it nicely navigated around headwinds, such as increased freight costs. Global can volumes are up, including double-digit growth in specialty cans, which is a meaningful amount of Ball's total volumes. Aluminum is taking share from glass and will likely accelerate the shift-share from plastic over time. The company is using its strong cash flow to return capital to shareholders. We maintained our core position.
- We have been waiting patiently for an opportunity to buy shares of Aspen Technologies. During the quarter, amid the broad software sell-off, we got our chance. We were not the only investors who saw an attractive valuation at 30% below its prior high for the year, so while Aspen's stock was down for the quarter, the share prices held steady for a small gain after we initiated.
- Illumina Inc. beat consensus expectations in the quarter, but not by the magnitude investors anticipated. The stock was weak in response. We were delighted to take advantage of the weakness to initiate a new position. While the stock declined 18% in the quarter, it held steady after we initiated our position, leading to a positive contribution to performance.
- Amazon posted quarterly top-line results below consensus. However, operating income far exceeded expectations. The company appears to be focused on margin expansion in the face of revenue deceleration. The stock is likely to be volatile depending on whether the market focuses on the long-term earnings power or near-term revenues. We trimmed our position in Amazon throughout the year but took advantage of the pullback in the quarter and added back.
- **West Pharmaceutical Services** delivered strong overall growth, but the company's highly profitable biologics segment decelerated. The company kept guidance for the year flat despite the third-quarter revenue beat. We believe West's new CFO is setting guidance conservatively, and our thesis remains intact.
- **J.B. Hunt** has been able to secure price increases, but investors can rightfully worry (in the short term) about cost and volume challenges from a host of angles—rail service issues, trucker shortages and trade wars. In addition, an arbitration overhang with its rail partner, BNSF, was resolved and negatively impacts J.B. Hunt's profitability in its intermodal segment, by far its largest and most profitable business. Nevertheless, the level of these charges are less than we feared, and we believe the long-term profitability model for the company is unchanged. We took advantage of weakness during the quarter to add to our position.

## Portfolio Activity

- Aspen Technologies is a company that sells mission-critical optimization software to energy, construction, engineering and chemical companies. Aspen aims to help its customers make their plants and supply chains more efficient, increase their production capacity, and save them billions of dollars over time. We believe that Aspen Technologies is poised to experience meaningful revenue growth as it expands its mission-critical asset optimization offerings among the industries it serves.
- Our other new holding this quarter is Illumina, a leading developer of sequencing and array-based solutions for large-scale genotyping and gene expression profiling. We believe the company has a strong revenue model supported by 61% consumables and secular growth drivers in personalized medicine, forensics, oncology and biomarker discovery. Illumina's sustainable business advantage is its ability to drive the efficiency and productivity of diagnostics and therapeutics within the health system. Furthermore, identifying desirable traits in plants and animals generally leads to healthier and more productive crops and livestock.
- We sold our small remaining position in restaurant equipment-maker **Welbilt**. We had initiated a position less than one year ago, believing that Welbilt would be a share gainer as restaurants and food service providers sorted out their equipment capital allocation to drive volumes. Soon after our initiation, Welbilt's CEO surprisingly resigned. This prompted us to exit the position, having lost confidence in the management team and its ability to execute in a highly competitive industry.

LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT TOP FIVE CONTRIBUTORS				
TICKER	NAME	AVG. WEIGHT (%)	RETURN (%)	CONTRIBUTION TO RETURN (%)
RHT	Red Hat, Inc.	0.85	27.41	0.69
AMT	American Tower Corporation	4.79	9.45	0.37
BLL	Ball Corporation	2.67	4.74	0.08
AZPN	Aspen Technology, Inc.	0.53	2.66	-0.03
ILMN	Illumina, Inc.	1.15	0.60	-0.04
LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT BOTTOM FIVE CONTRIBUTORS				
AMZN	Amazon.com, Inc.	4.41	-25.01	-1.19
WST	West Pharmaceutical Services, Inc.	3.10	-20.50	-0.70
JBHT	J.B. Hunt Transport Services, Inc.	2.85	-21.60	-0.65
TYL	Tyler Technologies, Inc.	2.21	-24.17	-0.57
MSFT	Microsoft Corporation	5.13	-10.80	-0.57

- **Tyler Technologies'** organic growth decelerated in the quarter, sending shares down. The timing of some of its larger public safety contracts renders results a bit lumpy, but its competitive positioning and customer spending environment remain robust. We added to our position during the pullback.
- **Microsoft's** strong revenue growth and margin expansion made for a strong quarter. While investors may worry about the tough comparables in the fourth quarter, we believe our thesis is on track for strong cloud growth, stability in its legacy businesses and cost controls leading to strong margin expansion.

LARGE-CAP SUSTAINABLE GROWTH REP. ACCOUNT PORTFOLIO ACTIVITY		
ADDITIONS		SECTOR
AZPN	Aspen Technology, Inc.	Information Technology
ILMN	Illumina, Inc.	Health Care
DELETIONS		SECTOR
FB	Facebook, Inc. Class A	Communication Services
RHT	Red Hat, Inc.	Information Technology
WBT	Welbilt Inc	Industrials

- We exited our small position in **Facebook** during the quarter. We have previously written about reducing our position size given the elevated risks around privacy, data security, governance and regulation. In monitoring the situation to assess whether these issues are systemic or isolated incidents, it has become clear to us that Facebook gave far greater data access to many technology companies beyond what it originally disclosed. We believe that at a minimum, these partnerships might have violated Facebook's consent decree with the Federal Trade Commission. But ultimately, it seems that Facebook deceived users and investors as to the extent of the data privacy issues. Unfortunately, in our opinion, Facebook's management has demonstrated a systemic disregard for managing privacy, data security and regulatory risk. We eliminated our position.
- With the pending acquisition of Red Hat by IBM, we exited that position and used the proceeds to initiate a position in Illumina at an opportune time.

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# Large-Cap Sustainable Growth Composite

Year	Composite Total Gross Returns (%)	Composite Total Net Returns (%)	Benchmark Returns (%)	Composite 3-Yr Annualized Standard Deviation (%)	Benchmark 3-Yr Annualized Standard Deviation (%)	Portfolios in Composite at End of Year	Composite Dispersion (%)	Composite Assets (\$USD Millions)	GIPS Firm Assets (\$USD Millions)
2017	29.1	28.4	30.2	10.6	10.5	32	0.2	762	33,155
2016	6.6	6.0	7.1	11.5	11.2	32	0.1	503	30,417
2015	13.7	13.1	5.7	11.1	10.7	23	0.3	405	43,746
2014	7.1	6.5	13.1	9.9	9.6	25	0.1	303	44,772
2013	34.5	33.7	33.5	12.1	15.5	24	0.2	288	40,739
2012	16.5	15.9	15.3	15.7	15.7	22	0.3	211	26,794
2011	5.4	5.0	2.6	--	--	21	0.3	37	19,962
2010	23.5	23.1	16.7	--	--	18	--	13	16,859

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- \*For the purpose of complying with the GIPS standards, the firm is defined as Brown Advisory Institutional, the Institutional and Balanced Institutional asset management divisions of Brown Advisory. As of July 1, 2016, the firm was redefined to exclude the Brown Advisory Private Client division, due to an evolution of the three distinct business lines.
- The Large-Cap Sustainable Growth Composite includes all discretionary portfolios invested in the Sustainable Large Cap Strategy. The strategy invests primarily in large market capitalization companies with financially and environmentally sustainable business models. The minimum account market value required for composite inclusion is \$1.5 million. Prior to 2012, the minimum was \$100,000.
- This composite was created in 2010. Prior to 3/31/13, the strategy was named Large-Cap Sustainability. Prior to 12/31/2011 the strategy was named Winslow Green Large Cap. No changes have been made to the strategy since inception.
- The benchmark is the Russell 1000® Growth Index. The Russell 1000® Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000® Index companies with higher price-to-book ratios and higher forecasted growth values. The Russell 1000® Growth Index is constructed to provide a comprehensive and unbiased barometer for the large-cap growth segment. The Index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics. The Russell 1000® Growth Index and Russell® are trademarks/service marks of the London Stock Exchange Group companies. An investor cannot invest directly into an index. Benchmark returns are not covered by the report of the independent verifiers.
- The dispersion of annual returns is measured by the equal weighted standard deviation of portfolio returns. The composite dispersion is not applicable (N/A) for periods where there were five or fewer accounts in the composite for the entire period.
- Gross-of-fees performance returns are presented before management fees but after all trading commissions, and gross of foreign withholding taxes (if applicable). Net-of-fee performance returns reflect the deduction of actual management fees and all trading commissions. Other expenses can reduce returns to investors. The standard management fee schedule is as follows: 0.80% on the first \$10 million; 0.65% on the next \$15 million; 0.50% on the next \$25 million; and 0.40% on the balance over \$50 million. Further information regarding investment advisory fees is described in Part II A of the firm's form ADV. Actual fees paid by accounts in the composite may differ from the current fee schedule.
- The three-year annualized ex-post standard deviation measures the variability of the composite (using gross returns) and the benchmark for the 36-month period ended on December 31. The 3 year annualized standard deviation is not presented as of December 31, 2010 and December 31, 2011 because 36 month returns for the composite were not available (NA).
- Valuations and performance returns are computed and stated in U.S. Dollars. All returns reflect the reinvestment of income and other earnings.
- A complete list of composite descriptions, policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.
- Past performance does not indicate future results.
- This piece is provided for informational purposes only and should not be construed as a research report, a recommendation or suggestion to engage in or refrain from a particular course of action or to make or hold a particular investment or pursue a particular investment strategy, including whether or not to buy, sell or hold any of the securities mentioned, including any mutual fund managed by Brown Advisory.

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Composite performance is based on the Brown Advisory Large-Cap Sustainable Growth Composite and was obtained through FactSet®. All information and returns shown are as of 12/31/2018 for each period. Returns greater than one year are annualized. Past performance is not indicative of future results. Representative account characteristics and top 10 holdings were obtained through FactSet. This information is based on a representative Large-Cap Sustainable Growth account and is provided as supplemental information. Account characteristics exclude cash and cash equivalents; top 10 holdings list includes cash and cash equivalents. FactSet® is a registered trademark of FactSet Research Systems, Inc.

References to specific securities are for illustrative purposes only and do not represent all of the securities purchased, sold or recommended for advisory clients. The security returns listed represent the period of when the security was held during the quarter. Top five and bottom five contributors exclude cash and cash equivalents. Sector diversification and sector attribution excludes cash and cash equivalents. Total portfolio return figures provided reflect the sum of the returns of the equity holdings in the representative account portfolio due to price movements and dividend payments or other sources of income, and exclude cash. Performance figures may vary from actual portfolio performance, as calculations are based on end-of-day security prices and do not incorporate the actual cost basis or sale price of individual securities. Sectors are based on the Global Industry Classification Standard (GICS®) classification system. GICS® is a registered trademark of MSCI and Standard & Poor's Financial Services LLC. The individual amounts shown for top ten holdings, sector diversification and quarterly attribution may not sum to the total amount shown due to rounding.

Please see composite disclosure statements above for additional information.

### Terms and Definitions For Representative Account Calculations

All financial statistics and ratios are calculated using information from FactSet as of the report date unless otherwise noted. **Market Capitalization** refers to the aggregate value of a company's publicly traded stock. **Weighted Average Market Cap** refers to the average of each holding's market cap, weighted by its relative position size in the portfolio (in such a weighting scheme, larger positions have a greater influence on the calculation). **Enterprise Value/Free Cash Flow (EV/FCF)** is the enterprise value of a company (defined as market value plus debt minus cash and minority interests) divided by its free cash flow (defined as operating cash flow minus net capital expenditure). EV/FCF calculations presented use FY2 earnings estimates; FY1 estimates refer to the next unreported fiscal year, and FY2 estimates refer to the fiscal year following FY1. **Name Turnover** is the ratio of the lesser of the portfolio's aggregate purchases or sales during a given period, divided by the average value of the portfolio during that period, calculated on a monthly basis. Portfolio turnover is provided for a three-year trailing period. All of the above ratios for a portfolio are expressed as a weighted average of the relevant ratios of each portfolio holding. EXCEPT for P/E ratios, which are expressed as a weighted harmonic average. The **Average Weight** of a position or sector refers to the daily average for the period covered in this report of a stock's value as a percentage of the portfolio. The **Total Return** of an equity security is the sum of the return from price movement and the return due to dividend payments or other sources of income. Standard benchmark-, sector- and portfolio-level returns are the sums of the weights of each security multiplied by its return, summed and calculated daily and summed over the period covered by the report or by an otherwise-noted period. **Allocation Effect** measures the impact of the decision to allocate assets differently than those in the benchmark. **Selection and Interaction Effect** reflects the combination of selection effect and interaction effect. Selection effect measures the effect of choosing securities that may or may not outperform those of the benchmark. Interaction effect measures the effect of allocation and selection decisions (i.e., did we overweight the sectors in which we underperformed). **Total Effect** reflects the combination of Allocation, Selection and Interaction effects. Totals may not equal due to rounding. **Contribution To Return** is calculated by multiplying a security's beginning weight as a percentage of a portfolio by that security's return for the period covered in the report.