



Investment Process

We seek to invest in companies, within our preferred themes, with sustainable growth characteristics at attractive valuations that do not fully reflect their long-term potential.

Themes

We identify long-term secular growth trends with the objective of investing in companies that have meaningful exposure to these trends. Our fundamental analysis focuses on those industry leaders with attractive growth and valuation characteristics that will be long-term beneficiaries of any structural change and/or trend.

Sustainable Growth

We apply a fundamental approach to identifying the long-term, sustainable growth characteristics of potential investments. We seek high-quality companies that typically have a sustainable competitive advantage, a superior business model and a high-quality management team.

Valuation

We use multiple valuation metrics to establish a target price range. We assess the relationship between our estimate of a company's sustainable growth prospects and its current valuation.

Team Overview

Our team approach combines the benefits of strong leadership with the creative ideas of a deep and highly experienced team of research analysts. We believe this approach allows us to leverage a broad set of perspectives into dynamic portfolios.

Portfolio Management



Mark L. Yockey, CFA
Portfolio Manager



Charles-Henri Hamker
Portfolio Manager



Andrew J. Euretig
Portfolio Manager

Investment Results (%)

| As of 31 December 2018 | Average Annual Total Returns | | | | | | |
|------------------------------|------------------------------|--------------|--------------|-------------|-------------|-------|------------------------|
| | QTD | YTD | 1 Yr | 3 Yr | 5 Yr | 10 Yr | Inception ¹ |
| Composite — Gross | -12.31 | -1.95 | -1.95 | 9.16 | 6.83 | — | 11.30 |
| Composite — Net | -12.53 | -2.92 | -2.92 | 8.08 | 5.77 | — | 10.21 |
| MSCI All Country World Index | -12.75 | -9.41 | -9.41 | 6.59 | 4.26 | — | 6.79 |

Annual Returns (%) 12 months ended 31 December

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|--------------------------|-------------|-------------|--------------|--------------|--------------|
| Composite — Gross | 4.69 | 2.18 | -0.48 | 33.31 | -1.95 |

Source: Artisan Partners/MSCI. Returns for periods less than one year are not annualized. ¹Composite inception: 1 April 2010.

Past performance does not guarantee and is not a reliable indicator of future results. Current performance may be lower or higher than the performance shown. Composite performance has been presented in both gross and net of investment management fees. The Strategy's investments in initial public offerings (IPOs) made a material contribution to the Composite's performance. IPO investments may not be available in the future.

Investment Risks: Investments will rise and fall with market fluctuations and investor capital is at risk. Investors investing in strategies denominated in non-local currency should be aware of the risk of currency exchange fluctuations that may cause a loss of principal. These risks, among others, are further described on the second to last page, which should be read in conjunction with this material.



Investing Environment

Global equities sold off sharply in Q4 as end-of-cycle ruminations centered around normalizing monetary policies, softening global growth and US-China trade tensions. This led to the MSCI AC World Index's worst quarter since Q3 2011. No regions were unscathed. Europe, Japan and the US were each down double-digit percentages. Emerging markets, which trailed developed markets through the first three quarters of 2018, held up better. The EM index was down about 7% in Q4 but declined 14% for the full year in line with non-US developed markets, while the US market fell 5% for the year.

Fading global growth expectations also sent commodities prices, especially oil, lower. The price of WTI crude tumbled by 40% from mid-\$70s a barrel to mid-\$40s. In turn, the energy sector was the weakest performer in Q4, followed by other cyclical (industrials, technology and consumer discretionary). Defensives (consumer staples, health care) and interest-rate proxies (utilities, real estate) fared better to varying degrees.

Like the February 2018 selloff, the initial trigger originated from concerns about rising government bond yields and a potential reemergence of global inflationary pressures—largely non-existent since the global financial crisis. Another area of angst was decelerating economic and earnings growth due in part to a slowdown in Europe and Japan and the effects of the US-China trade war.

Political uncertainty remained another major theme in Q4. Besides the US-China trade war, investors kept a close eye on the ongoing Brexit negotiations as well as the standoff between the European Union and Italy over the country's budget deficit. After several months of back and forth between Italy and the EU—that had pushed up Italy's borrowing costs and knocked European bank stocks—Italy and the EU struck a deal in December.

In contrast to the rest of the world, the US economy strengthened in 2018. The substantial fiscal stimulus in the form of tax cuts contributed to stronger economic growth and corporate profits. US monetary policy diverged as well. Citing strong economic fundamentals, the Federal Reserve continued to normalize policy—hiking its benchmark rate in December for a fourth time in 2018 and continuing to unwind its balance sheet. Even so, conflicting signals about the underlying health of economic conditions and financial markets' weakness contributed to investors' questioning whether the Fed was being too aggressive in its approach. The ECB, BOE and BOJ kept their respective benchmark rates steady. China's policymakers, amid the ongoing trade war with the US, continued to support their economy using a host of measures to incentivize bank lending and reduce borrowing costs.

Performance Discussion

Though absolute returns were disappointing, our portfolio held up slightly better than the MSCI AC World Index in Q4 and solidly outperformed for the full year. Housing Development Finance Corp (HDFC) and Lamb Weston were among our top Q4 contributors. HDFC is India's largest standalone mortgage financier. Shares rebounded from Q3 weakness on strong growth in earnings and loans and further improvement in asset quality as non-performing loans declined. In September, HDFC was caught up in an industry-wide stock selloff due to a liquidity crisis in Indian non-bank finance companies (NBFCs)

when infrastructure lender IL&FS defaulted on debt payments. Because HDFC and many of the other large Indian NBFCs do not have the asset-quality issues of IL&FS, we viewed the Q3 selloff as largely indiscriminate and continued to hold HDFC.

Lamb Weston, which was spun-off from ConAgra Foods in 2016, is a market leader in frozen potato/french fry production and supply to restaurants and food service distributors. In contrast to the tepid growth rates in the packaged foods industry and broader consumer staples sector, Lamb Weston's top-line growth has been relatively brisk. Low double-digits sales growth was driven by both volumes and pricing/product mix as the company's pricing power has been impressive. Although not commonly viewed as high-growth, demand for frozen potato products has been strong due in part to fast-food restaurant growth in Asia. Additionally, tight global manufacturing capacity has allowed Lamb Weston to increase prices.

Other big gainers were Linde and Petrobras. After several months of uncertainty over the approval of Linde's pending merger with fellow industrial gases producer Praxair, the companies received the last outstanding regulatory approval from the US Federal Trade Commission (FTC). The asset disposals required by the FTC were in line with market expectations. We estimate the combined entity should realize more than \$1 billion in cost synergies within three years.

Brazilian oil and gas company Petrobras—one of our weakest performers earlier in the year when a nationwide trucker strike forced the government to lower diesel prices—continued to recover. The political uncertainty that dogged the stock is now behind it following the country's October presidential election, which eased concerns about Brazil's future energy policy. President Bolsonaro has echoed his support of the current fuel-pricing policy and is supportive of further deregulation in the sector. For its part, Petrobras is driving shareholder value through disciplined capital allocation. Besides divestitures of non-core assets, strong free cash flow at prevailing oil prices is enabling the company to rapidly deleverage. We believe the stock is meaningfully undervalued relative to its growth outlook, as it trades at a discount to other major oil producers despite a superior production profile.

Our biggest Q4 detractor was electronic payments company Wirecard. Despite recent share-price weakness, Wirecard was our top contributor in 2018. The company is delivering robust organic growth as it's taking advantage of the secular growth in e-commerce and, in our view, should continue to benefit from the convergence of payments between online, mobile and in-store. Wirecard's valuation remains reasonable against our long-term earnings estimates.

Our defense and aerospace holdings Harris, Raytheon and Airbus were also among our weakest performers of the quarter. They were down along with the broader defense sector despite strong earnings results. The pullback looks to be a consolidation as defense stocks had strongly outperformed over the previous couple years. Increased defense spending in the US, where caps on defense spending were lifted in the latest government budget, as well as overseas, has provided stout tailwinds for these operators as evidenced by recent results and broad-based growth in their backlogs. Nevertheless, we sold Raytheon during the quarter in favor of better opportunities. In contrast, we remain invested in Harris. In October, Harris announced a

merger with L3 Technologies, creating the sixth largest defense contractor. Harris and L3 appear to be complementary given common end markets and limited product overlap. Besides potential synergies, the increased scale as a combined entity should also allow the company to bid on bigger projects.

Shares of Airbus, an aerospace and defense business, declined about 23% in Q4—slightly worse than the -20% return for the broader aerospace & defense industry (based on the MSCI AC World Index). Airbus continued to grow aircraft deliveries versus the prior year; however, supply chain bottlenecks led management to reduce its full-year delivery and free cash flow projections. The production delays appear temporary in our view. The company's long-term outlook remains underpinned by its decade-long, 6,000+ aircraft backlog and the potential to grow free cash flow as production increases and program ramp-up-related capital expenditures fall. Shares, however, took a further hit in December on reports the company was under a corruption investigation by the US Department of Justice—alongside those already underway in the UK and France—related to the company's use of intermediaries in negotiations abroad. If Airbus is found guilty of corruption, we believe the most likely outcome is a one-time fine, which would not materially affect the company's long-term value.

For the full year, our portfolio benefited from strong stock selection. On a sector basis, our main sources of outperformance were the technology, consumer staples and industrials sectors. Top individual performers in these sectors were Wirecard, an electronic payments processor, Lamb Weston, a frozen potato products supplier, and Canadian Pacific Railway, a North American rail operator. Other top contributors were software providers PTC and Atlassian and e-commerce leader Amazon.com. These contributions were partially offset by underperformance in the health care and utilities sectors. Key detractors in these sectors were ViewRay, a radiation therapy technologies developer, and Enel Americas, a South American electric utility. Other bottom performers were European banks ING and BNP Paribas and Indian investment services provider ICICI Securities.

Positioning

Increased volatility in Q4 provided us with an opportunity to initiate a few new positions at attractive valuations relative to our assessment of future earnings potential:

- We held Amazon.com, a global e-commerce and cloud-services provider, earlier in 2018. Employing our valuation discipline, we exited our position in Q3. When valuations improved in Q4, we returned to it. To reiterate our investment case, the company dominates the e-commerce landscape. Strong uptake of Amazon Prime continues to drive customer loyalty, increased purchase frequency and cross-category shopping. As the market leader in the enterprise cloud industry, AWS is a major beneficiary of the widespread migration of data storage to the cloud. This is a highly profitable business for Amazon, and customer switching costs are high—thus its early leadership position affords Amazon a strong competitive advantage.
- Danone is a French multinational food products company that is one of the largest dairy, food and water producers in the world. With a portfolio of strong brands (e.g., Danone/Dannon, evian, Activia, Silk, alpro), we believe the company can achieve double-

digit EPS growth via organic sales growth, margin improvement, rationalization of unprofitable products from the WhiteWave acquisition and growing brands into new channels and categories.

- Danaher is a well-diversified industrial and medical conglomerate with products and services in the sectors of test and measurement, environmental, life sciences, dental and industrial technologies that is well-managed and has a proven track record of value creation through M&A. We believe the earnings per share can grow low teens percentages based on mid-single digit organic sales growth, modest margin expansion and accretion from potential acquisitions.

In addition to Raytheon, we exited our position in Johnson & Johnson, a diversified health care company, in favor of better opportunities. Other sales included Atlassian, a developer of collaboration and productivity software tools, and Canadian Pacific Railway, a North American rail operator, as shares approached our target valuations.

Outlook

After the strong earnings growth delivered in 2018, we believe growth will be harder to come by in 2019. The tailwind from reduced corporate taxes will fade in coming quarters. In addition, the lagged effects of tightening US monetary policy have yet to be fully realized. Further, business and investor confidence has been negatively impacted by uncertainty from the US-China trade war. These considerations are counterbalanced by the dramatic improvement over the past year in global equity valuations as prices fell and earnings continued to grow.

Our experience investing over several market cycles has taught us the importance of focusing on companies with exposure to secular growth themes and sustainable growth characteristics: dominant or growing market positions, strong pricing power and solid free cash flow. Consequently, we remain focused on our themes and believe we have invested in a portfolio of companies that can weather a changing political and economic environment. We believe our bottom-up process will serve our investors well, yielding fundamentally sound companies with sustainable growth characteristics that are capable of standing up to varied market environments.

For more information: Visit www.artisanpartners.com

Investment Risks: International investments involve special risks, including currency fluctuation, lower liquidity, different accounting methods and economic and political systems, and higher transaction costs. These risks typically are greater in emerging markets. Securities of small- and medium-sized companies tend to have a shorter history of operations, be more volatile and less liquid and may have underperformed securities of large companies during some periods. Growth securities may underperform other asset types during a given period. These risks, among others, are further described in Artisan Partners Form ADV, which is available upon request.

Unless otherwise indicated, the Artisan Strategy characteristics relate to that of an investment composite or a representative account managed within a composite. It is intended to provide a general illustration of the investment strategy and considerations used by Artisan Partners in managing that strategy. Individual accounts may differ, at times significantly, from the reference data shown due to varying account restrictions, fees and expenses, and since-inception time periods, among others. Where applicable, this information is supplemental to, and not to be construed with, a current or prospective client's investment account information.

Securities of the same issuer are aggregated to determine a holding's weight in the portfolio. Securities referenced may not represent all of the securities in the portfolio. If certain information is unavailable for a particular security Artisan Partners may use data from a related security to calculate portfolio characteristics. All information in this report is as of the date shown in the upper right hand corner unless otherwise indicated and is subject to change without notice. Totals may not sum due to rounding.

Attribution is used to evaluate the investment management decisions which affected the portfolio's performance when compared to a benchmark index. Attribution is not exact, but should be considered an approximation of the relative contribution of each of the factors considered.

Net-of-fees composite returns were calculated using the highest model investment advisory fees applicable to portfolios within the composite. Fees may be higher for certain pooled vehicles and the composite may include accounts with performance-based fees. All performance results are net of commissions and transaction costs, and have been presented gross and net of investment advisory fees. Dividend income is recorded net of foreign withholding taxes on ex-dividend date or as soon after the ex-dividend date as the information becomes available to Artisan Partners. Interest income is recorded on the accrual basis. Performance results for the Index include reinvested dividends and are presented net of foreign withholding taxes but, unlike the portfolio's returns, do not reflect the payment of sales commissions or other expenses incurred in the purchase or sale of the securities included in the indices.

MSCI All Country World Index measures the performance of developed and emerging markets. The index(es) are unmanaged; include net reinvested dividends; do not reflect fees or expenses; and are not available for direct investment.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used to create indices or financial products. This report is not approved or produced by MSCI.

The Global Industry Classification Standard (GICS[®]) is the exclusive intellectual property of MSCI Inc. (MSCI) and Standard & Poor's Financial Services, LLC (S&P). Neither MSCI, S&P, their affiliates, nor any of their third party providers ("GICS Parties") makes any representations or warranties, express or implied, with respect to GICS or the results to be obtained by the use thereof, and expressly disclaim all warranties, including warranties of accuracy, completeness, merchantability and fitness for a particular purpose. The GICS Parties shall not have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of such damages.

This summary represents the views of the portfolio manager as of 31 Dec 2018. Those views and portfolio holdings are subject to change and Artisan Partners disclaims any obligation to advise investors of such changes. The discussion of portfolio holdings does not constitute a recommendation of any individual security. For a complete list of holdings by contribution to the strategy, refer to the Contributors to Return chart.

Free Cash Flow is a measure of financial performance calculated as operating cash flow minus capital expenditures. **Earnings per Share (EPS)** is the portion of a company's profit allocated to each outstanding share of common stock.

This material is provided for informational purposes without regard to your particular investment needs. This material shall not be construed as investment or tax advice on which you may rely for your investment decisions. Investors should consult their financial and tax adviser before making investments in order to determine the appropriateness of any investment product discussed herein. In no event shall Artisan Partners have any liability for direct, indirect, special, incidental, punitive, consequential (including, without limitation, lost profits) losses or any other damages resulting from the use of this material.

Artisan Partners Limited Partnership (APLP) is an investment adviser registered with the U.S. Securities and Exchange Commission (SEC). Artisan Partners UK LLP (APUK) is authorised and regulated by the Financial Conduct Authority and is a registered investment adviser with the SEC. APLP and APUK are collectively, with their parent company and affiliates, referred to as Artisan Partners herein. Artisan Partners is not registered, authorised or eligible for an exemption from registration in all jurisdictions. Therefore, services described herein may not be available in certain jurisdictions. This material does not constitute an offer or solicitation where such actions are not authorised or lawful. Further limitations on the availability of products or services described herein may be imposed.

This material is only intended for investors which meet qualifications as institutional investors as defined in the applicable jurisdiction where this material is received, which includes only *Professional Clients* or *Eligible Counterparties* as defined by the UK Financial Conduct Authority where this material is issued by APUK. This material is not for use by retail investors and may not be reproduced or distributed without Artisan Partners' permission.

In the United Kingdom, issued by APUK, 25 St. James's St., Floor 3, London SW1A 1HA, registered in England and Wales (LLP#: OC351201). Registered office: Reading Bridge House, Floor 4, George St., Reading, Berkshire RG1 8LS.

Australia: This material is directed at wholesale clients only and is not intended for, or to be relied upon by, private individuals or retail investors. Artisan Partners Australia Pty Ltd is a representative of APLP (ARBN 153 777 292) and APUK (ARBN 603 522 649). APLP and APUK are respectively regulated under US and UK laws which differ from Australian laws and are exempt from the requirement to hold an Australian financial services license under the Australian Corporations Act 2001 in respect to financial services provided in Australia.

Bailiwick of Guernsey: The financial services referred to in this material and this document are not being made available in the Bailiwick of Guernsey (Guernsey) to more than 50 persons in Guernsey and the financial services may not be accepted by more than 50 persons in Guernsey.

Canada: This material is distributed in Canada by APLP and/or Artisan Partners Distributors LLC, which conduct activities in Canada under exemptions from the dealer, portfolio manager and investment fund manager registration requirements of applicable Canadian securities laws. This material does not constitute an offer of services in circumstances where such exemptions are not available. APLP advisory services are available only to investors that qualify as "permitted clients" under applicable Canadian securities laws.

© 2019 Artisan Partners. All rights reserved.

For Institutional Investors Only — Not for Onward Distribution



Artisan Global Equity Strategy

Quarterly Contribution to Return (%)

As of 31 December 2018

| Top Contributors | Average Weight | Contribution to Return | Ending Weight |
|--------------------------------------|----------------|------------------------|---------------|
| Housing Development Finance Corp Ltd | 2.00 | 0.32 | 2.41 |
| Lamb Weston Holdings Inc | 1.97 | 0.28 | 1.00 |
| Linde AG | 1.56 | 0.28 | 0.00 |
| Petroleo Brasileiro SA | 3.53 | 0.18 | 3.52 |
| Genmab A/S | 1.38 | 0.16 | 1.91 |
| Dollar Tree Inc | 0.67 | 0.13 | 1.78 |
| Johnson & Johnson | 1.56 | 0.13 | 0.00 |
| CME Group Inc | 0.94 | 0.09 | 0.84 |
| Davide Campari-Milano SpA | 0.75 | 0.06 | 1.21 |
| Rentokil Initial PLC | 0.63 | 0.03 | 0.77 |
| Abbott Laboratories | 2.45 | 0.02 | 2.93 |
| Cash Holdings | 3.21 | 0.02 | 1.69 |
| Intercontinental Exchange Inc | 3.15 | 0.01 | 3.39 |
| ASM International NV | 0.00 | 0.00 | 0.00 |
| Elanco Animal Health Inc | 0.00 | -0.00 | 0.00 |
| Fortis Inc | 0.01 | -0.00 | 0.10 |
| StoneCo Ltd | 0.01 | -0.00 | 0.00 |
| Amazon.com Inc | 0.31 | -0.01 | 0.78 |
| SS&C Technologies Holdings Inc | 0.03 | -0.01 | 0.11 |
| adidas AG | 0.05 | -0.01 | 0.29 |
| AVEVA Group PLC | 0.18 | -0.02 | 0.69 |
| HSBC Holdings PLC | 0.57 | -0.02 | 0.63 |
| Canadian Pacific Railway Ltd | 0.18 | -0.02 | 0.00 |
| Wynn Macau Ltd | 0.06 | -0.02 | 0.25 |
| Japan Exchange Group Inc | 0.09 | -0.03 | 0.21 |
| Nestle SA | 1.49 | -0.04 | 1.51 |
| Kweichow Moutai Co Ltd | 0.25 | -0.04 | 0.32 |
| Calbee Inc | 0.83 | -0.04 | 0.72 |
| Danaher Corp | 1.04 | -0.04 | 1.17 |
| PayPal Holdings Inc | 2.02 | -0.05 | 2.40 |
| Idorsia Ltd | 0.12 | -0.05 | 0.11 |
| Bristol-Myers Squibb Co | 0.70 | -0.05 | 2.52 |
| PTC Inc | 0.32 | -0.06 | 1.03 |
| Roku Inc | 0.07 | -0.06 | 0.05 |
| Flexion Therapeutics Inc | 0.13 | -0.06 | 0.00 |
| ICICI Securities Ltd | 0.38 | -0.06 | 0.41 |
| AIA Group Ltd | 1.02 | -0.06 | 1.10 |
| Danone SA | 0.99 | -0.07 | 1.60 |
| Air Liquide SA | 2.11 | -0.08 | 2.51 |
| CAE Inc | 0.85 | -0.08 | 0.90 |

| Bottom Contributors | Average Weight | Contribution to Return | Ending Weight |
|--|----------------|------------------------|---------------|
| Wirecard AG | 4.97 | -1.72 | 4.48 |
| Harris Corp | 3.93 | -0.90 | 3.61 |
| Airbus SE | 2.66 | -0.67 | 2.41 |
| Lonza Group AG | 2.27 | -0.60 | 2.22 |
| InterXion Holding NV | 2.87 | -0.59 | 2.83 |
| ViewRay Inc | 1.26 | -0.51 | 1.09 |
| Raytheon Co | 1.40 | -0.48 | 0.00 |
| Alphabet Inc | 3.01 | -0.47 | 2.56 |
| ING Groep NV | 2.54 | -0.45 | 2.51 |
| Deutsche Boerse AG | 4.40 | -0.44 | 4.31 |
| Mastercard Inc | 2.64 | -0.44 | 2.51 |
| GMO Payment Gateway Inc | 1.09 | -0.38 | 1.00 |
| BNP Paribas SA | 1.28 | -0.37 | 1.34 |
| Anheuser-Busch InBev SA/NV | 1.11 | -0.31 | 1.35 |
| Citizens Financial Group Inc | 1.27 | -0.30 | 1.19 |
| Marathon Petroleum Corp | 0.91 | -0.25 | 0.87 |
| Facebook Inc | 0.74 | -0.25 | 0.92 |
| Apptio Inc | 0.26 | -0.24 | 0.00 |
| Worldpay Inc | 0.93 | -0.23 | 1.35 |
| Mondelez International Inc | 3.48 | -0.23 | 3.52 |
| Ferguson PLC | 0.93 | -0.23 | 0.83 |
| Linde PLC | 3.19 | -0.21 | 4.90 |
| Elekta AB | 1.10 | -0.21 | 0.72 |
| Sonova Holding AG | 0.27 | -0.21 | 0.00 |
| Atlassian Corp PLC | 0.13 | -0.20 | 0.00 |
| IHS Markit Ltd | 1.67 | -0.18 | 1.69 |
| Bio-Rad Laboratories Inc | 0.62 | -0.17 | 0.60 |
| Ipsen SA | 0.64 | -0.16 | 0.66 |
| Dolby Laboratories Inc | 1.28 | -0.15 | 1.30 |
| Obic Co Ltd | 0.80 | -0.14 | 0.85 |
| Fidelity National Information Services Inc | 0.65 | -0.13 | 0.00 |
| Fortum OYJ | 1.04 | -0.12 | 1.18 |
| Safran SA | 0.82 | -0.12 | 0.62 |
| Q2 Holdings Inc | 0.21 | -0.12 | 0.00 |
| Intesa Sanpaolo SpA | 0.95 | -0.12 | 1.02 |
| ServiceNow Inc | 0.83 | -0.11 | 0.67 |
| Tableau Software Inc | 0.67 | -0.11 | 0.00 |
| London Stock Exchange Group PLC | 0.87 | -0.10 | 1.13 |
| Anthem Inc | 1.68 | -0.09 | 2.13 |
| Spotify Technology SA | 0.26 | -0.09 | 0.00 |
| Vinci SA | 0.74 | -0.09 | 0.77 |

Source: Artisan Partners/FactSet. Performance is historical and is not a reliable indicator of future results. As of 31 Dec 2018. These investments made the greatest contribution to, or detracted most from, performance during the period based on a representative account within the strategy Composite. Upon request, Artisan will provide: (i) the calculation methodology and/or (ii) a list showing the contribution of each holding to overall performance during the measurement period. Securities of the same issuer are aggregated to determine the weight in the portfolio. % Contribution to Return is calculated by FactSet by multiplying a security's weight in the portfolio by its in portfolio return for the period referenced and does not take into account expenses of the portfolio. Purchases/sales are accounted for by using end of the day prices, which may or may not reflect the actual purchase/sale price realized by the portfolio.