



Investment Process

We seek to invest in companies that possess franchise characteristics, are benefiting from an accelerating profit cycle and are trading at a discount to our estimate of private market value. Our investment process focuses on two distinct elements—security selection and capital allocation. We overlay our investment process with broad knowledge of the global economy.

Security Selection

We seek to identify companies that have franchise characteristics (e.g. low cost production capability, possession of a proprietary asset, dominant market share or a defensible brand name), are benefiting from an accelerating profit cycle and are trading at a discount to our estimate of private market value. We look for companies that are well positioned for long-term growth, which is driven by demand for their products and services, at an early enough stage in their profit cycle to benefit from the increased cash flows produced by the emerging profit cycle.

Capital Allocation

Based on our fundamental analysis of a company's profit cycle, we divide the portfolio into three parts. GardenSM investments are small positions in the early part of their profit cycle that may warrant more sizeable allocations as their profit cycle accelerates. CropSM investments are positions that are being increased to a full weight because they are moving through the strongest part of their profit cycles. HarvestSM investments are positions that are being reduced as they near our estimates of full valuation or their profit cycles begin to decelerate.

Broad Knowledge

We overlay the security selection and capital allocation elements of our investment process with a desire to invest opportunistically across the entire global economy. We seek broad knowledge of the global economy in order to find growth wherever it occurs.

Team Overview

We believe deep industry expertise, broad investment knowledge, a highly collaborative decision-making process and individual accountability are a powerful combination. Since the inception of the team, we have been committed to building a team of growth investors that retains these attributes and is solely dedicated to our process and approach.

Portfolio Management



Craigh A. Cepukenas, CFA
Portfolio Manager (Lead)



James D. Hamel, CFA
Portfolio Manager



Matthew H. Kamm, CFA
Portfolio Manager



Jason L. White, CFA
Portfolio Manager

Investment Results (%)

As of 30 September 2019	Average Annual Total Returns						
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception ¹
Composite — Gross	-2.73	28.48	3.27	17.45	15.35	16.26	11.05
Composite — Net	-2.98	27.54	2.25	16.30	14.22	15.12	9.97
Russell 2000® Growth Index	-4.17	15.34	-9.63	9.79	9.07	12.24	7.58
Russell 2000® Index	-2.40	14.18	-8.89	8.23	8.18	11.19	8.92

Annual Returns (%) 12 months ended 30 September

	2015	2016	2017	2018	2019
Composite — Gross	8.02	16.73	14.98	36.45	3.27

Source: Artisan Partners/Russell. Returns for periods less than one year are not annualized. ¹Composite inception: 1 April 1995.

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.

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 near the back of this document, which should be read in conjunction with this material.



Investing Environment

Global equity markets proved resilient through a choppy Q3, with most markets turning in flat performances despite trade tensions, spiking oil prices, ongoing concerns about slowing global growth and Brexit uncertainty. US equity markets led, followed by non-US developed and emerging markets.

Many economies globally are starting to show some fallout from tariffs, and the US-China trade war remains front and center. Both parties announced another round of tariffs during the quarter, with the US expected to levy tariffs on consumer goods for the first time. Trade talks are expected to resume in October in Washington, D.C., though the consensus is that a comprehensive deal is unlikely.

On the monetary policy front, many central banks globally shifted toward accommodative stances against the backdrop of low inflation, escalating trade conflicts and other geopolitical uncertainties. Domestically, the Federal Reserve reversed course for the first time in 11 years, cutting rates by 25bps twice in the quarter and bringing the federal funds rate to 1.75%-2.00%.

More defensive sectors led, including utilities, real estate and consumer staples. Conversely, health care, materials and energy lagged—the latter despite a brief spike in oil prices following an Iranian attack on Saudi oil fields. The health care sector has been pressured amid intensifying US political rhetoric ahead of the presidential primary, which has increased uncertainty about the future of the insurance industry and pharmaceutical pricing. From a size perspective, large-cap indices outperformed mid and small caps, and growth lagged value in the small- and mid-cap indices. However, growth remains ahead of value in large-, mid- and small-cap indices YTD.

Performance Discussion

Against a backdrop of ample market volatility and geopolitical uncertainty, our portfolio outperformed the Russell 2000® Growth Index and lagged the Russell 2000® Index in Q3 and remains ahead of both indices YTD. Given a strong first half for the portfolio, we were not surprised to see small-cap stocks and our portfolio consolidate some of their YTD gains. Sector allocation played a larger role in the portfolio's relative performance than normal. In particular, results were negatively impacted by our lack of exposure to bond surrogate sectors (particularly real estate, consumer staples and utilities), which benefited from investors' desperation for yield as the 10-year rate collapsed. However, we find none of these sectors particularly attractive sources for accelerating profit cycles.

On an absolute basis, our health care returns were negative in the quarter, and the sector was the largest negative contributor to our absolute performance. In addition to uncertainty around the insurance industry and pharmaceutical pricing, the sector was pressured amid a broader rotation out of high-growth stocks. It's worth noting year to date, despite health care stocks' trailing the

index, our stock selection within the sector has been the largest positive contributor to our relative outperformance.

At the individual holdings level, Roku, LivePerson and Teledyne were among our top Q3 contributors. We initiated our Roku campaign in Q4 2018 as we saw the company disrupting the traditional linear TV market with its easy-to-use interface and streaming ecosystem, providing customers flexibility to consume content a la carte. The company has put up impressive results, and we believe the market for streaming platforms is in its early stages. However, we harvested our position during the quarter as it had outgrown our small-cap mandate and approached our estimate of private market value (PMV). This ended a very successful campaign—notably, before shares were weighed down by the Comcast and Facebook streaming device announcements.

LivePerson is a leading provider of mobile and online messaging solutions, and we believe it is well-positioned to lead the shift from voice to digital communications. Demand for its solutions remains robust as evidenced by its expanding sales force and rapid pace of new customer additions. Helmed by a capable management team, including a chief technology officer who previously led Amazon's Alexa unit, we believe the market opportunity ahead is substantial and goes well beyond simple digital conversations in services contexts into areas such as sales, marketing and possibly social media monitoring.

Teledyne, which supplies ultra-sensitive components and sensors to various end markets, turned in solid results during Q3 and continues reaping the rewards of its ongoing efforts to reposition its business in higher-growth and higher-margin areas such as instrumentation, digital imaging and defense electronics. The share price is following earnings growth, as we would expect. We've been pleased to see our thesis continue to play out in line with our expectations.

Among our bottom Q3 contributors were Cision, Chegg and Ollie's Bargain Outlet. Cision is the leading provider of workflow software utilized by public relations professionals. We have held Cision as we anticipated it would disrupt an industry which lacked fully integrated solutions, in turn becoming the go-to software provider and capturing a growing stream of recurring revenues as its product gained traction. Since initiating our campaign, however, Cision has struggled to accelerate organic growth due to a slower-than-expected sales cycle for Cision Impact, weaker-than-anticipated product cross-sells, and an inability to gain traction in the international markets. We consequently harvested our GardenSM position in favor of better opportunities.

Chegg is driving solid subscriber growth for its best-in-class online digital education platform. Shares were pressured in the quarter on the announcement the company was acquiring Thinkful—an online IT education program offering courses and one-on-one mentoring to develop skills such as software engineering, data analytics and

product design. Chegg's management team has a solid track record of integrating acquisitions, and the deal expands the company's total addressable market to non-college students and helps fill a potential talent pool gap for emerging technology roles over the next decade. Aside from the acquisition announcement, the company has had success expanding its business internationally, and testing for its Study Pack bundle appears promising—which should lead to higher fees over the medium term. With our thesis still intact, we used the pullback during the quarter to add to our position.

Shares of Ollie's Bargain Outlet, a discount retailer, were pressured amid a rare bout of poor execution as an atypical pace of new store openings in the first half of this year stressed its supply chain, hampering its ability to stock stores. However, we believe the issues are transitory as the cannibalization took place in mature markets where Ollie's opportunistically took over bankrupt Toys R Us locations last year. Going forward, the company plans to open stores in new markets—an opportunity with meaningful runway, as the current store footprint is small relative to other off-price retailers. Given a strong founder-led management team, limited competition and our confidence the company can scale up the business, we added to our position on the recent pullback.

Portfolio Activity

We capitalized on the Q3 pullback in the technology sector to opportunistically initiate new GardenSM positions in Altair, PROS Holdings and Zscaler at attractive valuations. Altair is a provider of computer-aided engineering (CAE) software and services used by simulation engineers, designers and scientists to design and test products before manufacturing to optimize performance. Since its founding, the company has evolved from a single product into something of a platform, providing customers end-to-end solutions. With a strong balance sheet, Altair has made smart acquisitions that contribute to this platform. One of its more recent, Datawatch, should introduce interesting synergies and opportunities to cross-sell Datawatch products—which include data prep, data prediction and real-time high-volume data visualization technologies—into Altair's existing customer base. Though we are monitoring Altair's exposure to the auto industry and the potential for a cyclical slowdown, we added Altair to the GardenSM in Q3 and will build our position as we gain conviction in management's ability to execute and drive profitable growth.

PROS Holdings provides cloud-based pricing and revenue optimization software for customers in the travel industry (where it maintains a dominant market position) and business-to-business (B2B) industries. PROS leverages data science, machine learning and decades of pricing experience in the airline industry—which is perceived to be 10-15 years ahead of other industries in terms of pricing—to enable customers to price, configure and sell their products more efficiently. As the B2B segment digitizes its transactions, the demand for real-time pricing should be a key driver for PROS' future earnings growth, namely in the food and

consumables, freight and logistics, high-tech and chemicals, health care, and energy sectors.

Zscaler is a global, cloud-based Internet security platform and subscription-based alternative to on-premise security solutions. The company's offerings reduce wireless area network costs and branch office infrastructure, while improving user experiences. Given the broader shift of enterprise applications to the cloud—Office 365, Workday, etc.—there is a sizeable addressable market, and we believe Zscaler is well-positioned to capture an increasing share of security budgets as companies migrate to the cloud.

In addition to the aforementioned sales of Roku and Cision, we concluded our campaigns in Tableau, Veeva and Benefitfocus during Q3. As we've alluded to in recent quarters, Tableau's acquisition by Salesforce caps our successful investment campaign, which we fully concluded during the quarter.

Veeva Systems continues winning new life-science industry customers and selling additional software tools to existing customers, which is driving strong revenue growth. Further, the efficiency of Veeva's operating model (a modern technology platform, products that have earned high customer satisfaction, and a mature sales force footprint) is translating into very impressive margin expansion. While we maintain conviction in the remaining growth runway, we harvested our position as the market cap had outgrown our small-cap mandate.

Benefitfocus is a cloud-based provider of benefits software. Despite signs of improved sales execution and cost containment in late 2018, shares have been meaningfully pressured this year by the combination of the renegotiation of a major contract with Mercer and a significant management shake-up—including the resignations of the CFO and head of sales. These events, coupled with a weak outlook from the company during Q3, prompted us to harvest our position in favor of better opportunities.

In addition to the aforementioned adds of Chegg and Ollie's Bargain Outlet, we also added to Ascendis Pharma. Ascendis Pharma is a biotechnology company with a proprietary technology platform (TransCon) that we believe supports pipeline development of multiple, best-in-class therapies while minimizing clinical risk and expense. The company's phase-III results for its weekly growth hormone drug have been compelling and open a significant profit opportunity in the coming years. Success in these trials has not only de-risked the product, but also the underlying TransCon technology platform. This platform has been used to generate other rare disease endocrinology drug candidates that we expect to follow a similarly successful path to clinical development. In addition, Ascendis announced plans early this year to expand into cancer therapies, which could be a meaningful future catalyst for the company.

Conversely, our only trim during the quarter was Donaldson, a leading original equipment manufacturer of air and liquid filters. The

company has struggled against a challenging backdrop for the industrial sector and has reported weaker-than-expected results over the past couple quarters. While Donaldson is a high-quality, semi-defensive industrial franchise that we believe should execute better than most other industrial names, we reduced our position and reallocated our capital into earlier profit cycles.

Portfolio Statistics

As of September 30, 2019, the portfolio had a 3-5 year forecasted weighted average earnings growth rate of 31%, and our holdings were selling at a weighted harmonic average P/E (excluding negative earnings) of 36X FY1 earnings and 30X FY2 earnings. The portfolio held 63 companies with 32% of portfolio capital committed to the top 10 holdings and 53% of capital committed to the top 20 positions. The portfolio's weighted average market capitalization was \$5.4 billion.

Perspective

For nearly a decade, we have enjoyed economic expansion and strong stock market returns coming out of the worst economic crisis since the Great Depression. Interest rates have remained below pre-crisis levels throughout this cycle, creating a favorable environment for equities—growth stocks in particular. More recently, rates have marched back toward historic lows and monetary policy makers have become more accommodative, which gives equity markets some level of confidence. The big debate is whether historically low interest rates are foretelling global recession, or whether they potentially prolong what has been something of a Goldilocks period for the stocks of well-positioned growth franchises. On one hand, if one really believes the risk-free rate is likely to remain historically low for the next several years, then equities are not overvalued—particularly relative to alternatives. On the other hand, if the risk-free rate is predicting a bear market (and there are undoubtedly some economic indicators which could point in that direction), then the end of the bull market may be near in conjunction with a recession.

Expectations for return potential are more muted today relative to the beginning of the year and most indicators—mounting pressures from the ongoing trade war, Hong Kong protests, Brexit disruption, US election uncertainty—point to a tougher road ahead. Scrutiny of business models and valuation assumptions are increasing as evidenced by recent failed or poor-performing initial public offerings (IPOs)—most notably Uber, Lyft, WeWork and Peloton. While late-cycle, failed IPOs tend to predicate a bear market, an argument could be made these companies stayed private too long and were asking for far too generous valuations. In fact, one could argue that public investors' poor reception to these cash-burning, asset-intensive business models suggests the "technology-stock mania" sometimes alluded to in the media is perhaps overstated.

While we would argue the bull market is likely nearer its end than its beginning, we also don't think this period is completely analogous to the end of previous bull markets when stocks were universally quite expensive. On the contrary, we continue to find high-quality growth franchises whose shares have risen because of the relative certainty of

their future profits growth (Q2 Holdings, Guidewire Software, LivePerson and others). Further, it's worth noting our process is deliberately designed to avoid companies like the aforementioned failed IPOs, which generally aren't earning profits, don't have an identifiable plan for growing profits and are overvalued.

Our health care holdings were negatively impacted in recent months by the market's general rotation away from higher growth stocks. But perhaps more significantly, the sector has faced pressure year to date as health care continues to garner a lot of attention from policymakers in Washington, D.C., and on the campaign trail. While there appears to be a reasonable level of bipartisan support for drug price legislation, we continue to believe the majority of proposals would represent manageable headwinds for the industry. Importantly, we see our biotech holdings as having innovative new medicines that can drive meaningful profit cycles under a reasonably wide range of pricing scenarios. Beyond pharmaceuticals, single payer health care (often referred to as "Medicare for all") has gotten much attention in the Democratic primaries. Most political observers view an extreme outcome on this front as unlikely, but the risk of a worse-case outcome and the long election season ahead is limiting short-term demand for health care stocks. We're monitoring the debate closely as well as our holdings' exposure to the proposed changes, but in general we believe the risks priced into these stocks have resulted in an attractive long-term risk-reward for our health care investments. Interestingly, while many of these holdings underperformed during the quarter, our fundamental research efforts in recent months have actually strengthened our conviction in the underlying profit cycle drivers for companies such as Ascendis Pharmaceuticals and DexCom.

In sum, we find ourselves neither bullish nor bearish at this juncture—but nor does our process require us to make a laser-accurate macro forecast in order to deliver long-term results. Further, it is possible to see both eventualities simultaneously without reacting to one extreme or the other. Against this backdrop, we maintain our conviction that many of the profit cycles in our portfolio offer further opportunity for long-term compounding of value—following trends that are more secular (proliferating use of software, renewable energy, health care innovation) than cyclical in nature. Strong franchises with visible profit cycle drivers and healthy balance sheets should continue to be preferred in this economic environment (over any reasonable period of time), and therefore we saw this volatility as a chance to add to holdings as the risk-reward became more attractive.

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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.

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Our capital allocation process is designed to build position size according to our conviction. Portfolio holdings develop through three stages: GardenSM, CropSM and HarvestSM. GardenSM investments are situations where we believe we are right, but there is not clear evidence that the profit cycle has taken hold, so positions are small. CropSM investments are holdings where we have gained conviction in the company's profit cycle, so positions are larger. HarvestSM investments are holdings that have exceeded our estimate of intrinsic value or holdings where there is a deceleration in the company's profit cycle. HarvestSM investments are generally being reduced or sold from the portfolios.

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Artisan U.S. Small-Cap Growth Strategy

Quarterly Contribution to Return (%)

As of 30 September 2019

Top Contributors	Average Weight	Contribution to Return	Ending Weight
Roku Inc	1.13	0.82	0.00
Teledyne Technologies Inc	4.66	0.73	5.21
LivePerson Inc	2.52	0.51	2.65
Tyler Technologies Inc	2.22	0.40	2.47
Ambarella Inc	0.75	0.26	0.95
Monolithic Power Systems Inc	1.79	0.23	1.94
Floor & Decor Holdings Inc	1.10	0.22	1.31
Canada Goose Holdings Inc	1.71	0.20	1.88
Insulet Corp	0.60	0.19	0.73
BWX Technologies Inc	1.80	0.17	1.92
Cubic Corp	1.48	0.13	1.65
Q2 Holdings Inc	4.45	0.12	4.43
Guidewire Software Inc	3.11	0.11	3.37
Tabula Rasa HealthCare Inc	1.66	0.10	1.72
Veeva Systems Inc	0.37	0.08	0.00
RealPage Inc	1.23	0.08	1.29
Tableau Software Inc	0.29	0.07	0.00
Coherent Inc	0.54	0.07	0.60
Clarivate Analytics PLC	0.93	0.06	1.32
Neurocrine Biosciences Inc	0.83	0.04	0.83
Coupa Software Inc	2.21	0.04	2.15
ServiceMaster Global Holdings Inc	0.53	0.04	0.55
Radius Health Inc	0.68	0.03	0.83
Cash Holdings	5.08	0.02	3.80
Bright Horizons Family Solutions Inc	1.92	0.02	1.94
Teladoc Health Inc	1.31	0.02	1.40
Cognex Corp	0.67	0.02	0.76
Altair Engineering Inc	0.25	0.01	0.65
Donaldson Co Inc	1.60	0.01	1.44
Phreesia Inc	0.00	0.00	0.00
10X Genomics Inc	0.00	-0.00	0.00
Morningstar Inc	0.64	-0.00	0.73
PROS Holdings Inc	0.06	-0.01	0.50
World Wrestling Entertainment Inc	0.91	-0.01	0.94
Veracyte Inc	0.05	-0.01	0.25
DexCom Inc	3.35	-0.01	3.33

Bottom Contributors	Average Weight	Contribution to Return	Ending Weight
Chegg Inc	2.74	-0.63	2.63
Gardner Denver Holdings Inc	2.41	-0.47	2.30
John Bean Technologies Corp	2.43	-0.44	2.28
Ollie's Bargain Outlet Holdings Inc	1.12	-0.43	1.47
Cision Ltd	0.44	-0.40	0.00
Glaukos Corp	2.17	-0.36	2.15
Argenx SE	1.66	-0.34	1.51
Ascendis Pharma A/S	1.77	-0.30	1.62
Novanta Inc	1.98	-0.29	2.07
HubSpot Inc	2.84	-0.29	2.49
Virtu Financial Inc	1.12	-0.28	0.95
Ingevity Corp	1.23	-0.27	1.22
Cree Inc	2.01	-0.25	1.88
Blackline Inc	2.11	-0.24	2.30
Iovance Biotherapeutics Inc	0.79	-0.22	0.70
NeoGenomics Inc	1.38	-0.21	1.36
Agios Pharmaceuticals Inc	0.50	-0.20	0.40
ACI Worldwide Inc	2.23	-0.19	2.30
First Solar Inc	1.58	-0.19	1.54
Tactile Systems Technology Inc	0.67	-0.18	0.57
Glu Mobile Inc	0.40	-0.16	0.50
The New York Times Co	1.31	-0.15	1.32
Zynga Inc	2.78	-0.15	2.84
The Trade Desk Inc	0.84	-0.14	0.68
Sage Therapeutics Inc	0.57	-0.14	0.49
Halozyme Therapeutics Inc	1.22	-0.11	1.36
HealthEquity Inc	0.95	-0.10	1.14
Orchard Therapeutics plc	0.67	-0.10	0.59
Benefitfocus Inc	0.68	-0.09	0.00
LiveRamp Holdings Inc	0.60	-0.08	0.72
Avalara Inc	0.91	-0.07	0.87
Zscaler Inc	0.19	-0.05	0.97
Accelaron Pharma Inc	0.96	-0.05	0.94
Dynatrace Inc	0.13	-0.03	0.00
Webster Financial Corp	1.68	-0.02	1.73
Mesa Laboratories Inc	0.49	-0.02	0.53

Source: Artisan Partners/FactSet. Performance is historical and is not a reliable indicator of future results. As of 30 Sep 2019. 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.