



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



Matthew H. Kamm, CFA
Portfolio Manager (Lead)



James D. Hamel, CFA
Portfolio Manager



Craigh A. Cepukenas, CFA
Portfolio Manager



Jason L. White, CFA
Portfolio Manager

Investment Results (%)

As of 31 March 2019	Average Annual Total Returns						
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Inception ¹
Composite — Gross	22.09	22.09	14.07	15.32	9.34	18.14	15.05
Composite — Net	21.82	21.82	13.02	14.27	8.33	17.06	13.98
Russell Midcap® Growth Index	19.62	19.62	11.51	15.06	10.88	17.59	9.38
Russell Midcap® Index	16.54	16.54	6.47	11.82	8.80	16.87	10.20

Annual Returns (%) 12 months ended 31 March

	2015	2016	2017	2018	2019
Composite — Gross	8.32	-5.93	14.61	17.31	14.07

Source: Artisan Partners/Russell. Returns for periods less than one year are not annualized. ¹Composite inception: 1 April 1997.

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

Markets bounced back sharply from Q4's weakness to start 2019 and are effectively flat over the last six months. US markets led the way, followed closely by foreign developed and emerging markets. Though many of the concerns which weighed on sentiment in 2018 remain unresolved—notably Brexit and global trade concerns, particularly between the US and China—investors shrugged off ongoing uncertainty as corporate earnings remain solid overall.

On the monetary policy front, the Fed and ECB sharply reversed course in Q1, returning to easier policy stances. The Fed left interest rates unchanged, as broadly expected, and signaled it may not raise rates at all in 2019—a less anticipated development. Meanwhile, the ECB announced it would reverse course and provide additional monetary stimulus in the form of resurrecting inexpensive, long-term loans for banks. The BoE and the BoJ, meanwhile, left rates on hold—the former given ongoing Brexit uncertainty. The Bank of Japan is maintaining a negative short-term interest rate in the face of ongoing macroeconomic weakness and few signs of domestic inflation. These combined signals from the world's major central banks that the global economy continues needing support helped push rates further down. The real estate sector was not surprisingly one of the leading sectors both in the US and globally, while financials (though positive on an absolute basis) trailed in the face of lower-for-longer rates.

At the sector level, in addition to real estate, technology stocks led—powered by solid earnings reports and despite growing global concerns about areas such as privacy and the potential need for increased regulatory oversight. Energy stocks also rose nicely in Q1 on the back of higher crude prices. Conversely, health care and financials stocks were the primary laggards, though both sectors were positive on an absolute basis. From a style standpoint, the market continues to be led by growth stocks across the cap spectrum.

Performance Discussion

As markets bounced back from Q4's selloff, our portfolio outperformed the Russell Midcap® and Russell Midcap® Growth Indices in Q1. Portfolio strength has been broad-based at the sector level as fears have subsided and investors have returned to stocks with the strongest fundamentals. In a reverse from Q4, our consumer discretionary holdings delivered the strongest absolute and relative returns. The benchmark sector underperformed the Russell Midcap® Growth Index as a whole, as traditional retailer earnings were mixed. However, our investments are less exposed to more mature, asset-heavy retailers and are focused rather on leading Internet franchises such as Wayfair and more flexible retail models such as Lululemon and Canada Goose. Health care and software—two of our highest-conviction, most innovative areas—also contributed to absolute and relative performance in the quarter.

From an individual holdings standpoint, Veeva Systems, Worldpay and the aforementioned Wayfair were among our top contributors. Veeva Systems is a leading provider of cloud-based SaaS solutions for the pharmaceutical and life sciences industries. As we have written

recently, the company is executing at a high level, benefiting from broader adoption of its expanding product suite among pharmaceutical customers—particularly within the areas of clinical trial and clinical data management. Importantly, the value proposition seems to be increasingly clear to pharmaceutical customers, who benefit from an improved offering over legacy solutions while saving costs associated with managing and maintaining the hardware and software themselves. Recent results have provided a reminder of how much margin potential exists in this business model, as the company continues to notch all-time highs despite healthy reinvestment in future growth drivers.

We have held Worldpay, a leading credit-card merchant acquirer with strong presence in global e-commerce as well as small and medium business payments, for its attractive exposure to digital payments and have anticipated its global footprint would allow it to grow market share. Shares were pressured in Q4 by concerns about the economic outlook in the UK, which represents roughly 20% of Worldpay's business. However, earnings reported in March revealed the company managed effectively through this macro pressure while continuing to deliver strong e-commerce growth. Shares also received a boost from FIS's announced acquisition of Worldpay. Though we see this as a positive validation of our thesis, we are evaluating the investment case from here. Given it's a stock and cash transaction, investors in Worldpay will become wholly investors in FIS. While there may be a valid thesis supporting a potential FIS profit cycle, it will require additional research.

Wayfair, a leading online furniture retailer, continues to experience rapid growth. Though the company's investments to support this growth have weighed on profits in the US and its less mature international markets, we're seeing strong signs these investments are rational and likely to pay off nicely in the longer term. Further, the company's customer acquisition costs have been relatively stable—a positive sign the company isn't spending more and more to acquire less-profitable customers—while repeat-purchase rates are strong, which speaks to happy, loyal customers. Looking forward, we believe Wayfair's significant investments in its merchandise teams and logistics continue to grow, but at a moderating pace in the US. Though we anticipate ongoing volatility in this small CropSM holding, as longer-term investors, we are attracted to the company's progress relative to a very large market opportunity.

Among our bottom individual contributors were Take-Two Interactive and ABIOMED. Shares of Take-Two, a leading video-game developer, have been pressured as investors weigh the impact of new viral free-to-play hits like Fortnite and, more recently, Apex Legends on full-price games like Take-Two's. These developments, combined with Google's announcement of a new video-game streaming service, show there is dynamic change and experimentation underway in this industry. Generally, we believe lower cost onramps for players (in the form of free-to-play and streaming) should benefit the industry longer term by expanding the number of players globally. However, shorter term, it raises the question about whether competition for gamers'

attention will impact the growth of Take-Two's full-price games. We believe the target audiences are somewhat different and that the recent blockbuster launch of Red Dead Redemption 2 reinforces that Take-Two continues to produce very high-quality content. If Take-Two's follow-on digital updates for Red Dead Redemption 2 this year inspire players to spend more, we think the company's profit cycle will remain strong. But given the number of industry variables currently in flux, we reduced our position somewhat as we await more data surrounding this new recurring-revenue model.

ABIOMED is a leading medical devices company focused on mechanical circulatory support to improve outcomes for high-risk cardiovascular patients. During the quarter, the FDA issued a warning letter to doctors using the company's Impella RP[®] pump to treat right-ventricle heart failure that the survival rate is lower than the rate achieved in trials. However, doctors using the Impella RP[®] pump in that context are using it off-label for an unapproved use. Further, right-ventricle heart failure represents a very small part of ABIOMED's business. We consequently capitalized on the opportunity to continue building our position. The market opportunity is significant, and ABIOMED, which has a virtual monopoly for now, has barely begun penetrating it. Its product is being rapidly adopted in several large cardiac conditions globally, and new indications which could significantly increase the company's market opportunity are being studied in clinical trials. With a broad runway ahead and the potential for additional products and indications, we believe the profit-cycle potential is meaningful.

Portfolio Activity

As we've discussed in recent communications, we take a positive view of heightened market volatility as it allows us to capitalize on opportunities to invest in high-quality franchises at compelling valuations. Our ongoing research efforts continued to bear fruit in Q1, and we initiated several new campaigns—among them, First Solar, Ascendis Pharma and Arista Networks—while adding to the aforementioned ABIOMED, as well as ServiceMaster Global Holdings and Alexion Pharmaceuticals.

First Solar is a leading global producer of solar panels. We believe alternative energy sources—particularly solar and wind—are at an inflection point as prices come down and production is increasingly economically viable without reliance on subsidies. First Solar is entering a new product cycle with its Series 6 panels, which should establish it as the low-cost producer in the industry. The company also has expertise in developing full solar power plants and possesses a very strong balance sheet. We believe these attributes position First Solar as an attractive partner for US utility companies looking to significantly shift their mix of energy sources toward renewables in the coming years.

Ascendis Pharma is a biotechnology company with a proprietary technology platform (TransCon) that supports pipeline development of multiple, best-in-class therapies while minimizing clinical risk and expense. Recently, the company reported better-than-expected

phase-III results for its long-acting weekly growth hormone, TransCon GH. We believe this drug will be a strong driver of profitability. Importantly, this outcome also de-risks the company's other endocrine programs, as well as the TransCon technology platform itself. With a promising pipeline, we believe Ascendis is capable of driving a compelling profit cycle in the period ahead.

Arista Networks is the market-leader for cloud networking equipment used in data centers for public, private and hybrid cloud deployments. Specifically, Arista's differentiated Extensible Operating System (EOS) software, which runs on merchant silicon-based hardware, is easier to program, manage and scale and is more resilient—all of which enable significant customer savings over legacy solutions. Additionally, Arista's cloud-centric architecture is specifically designed to handle roughly 10 times more bandwidth that flows within a data center than goes in and out of the data center—another differentiator relative to legacy networking solutions. We anticipate Arista's software-centric programmable and scalable switches, which have been purpose-designed for cloud IT architectures, will continue taking share from legacy hardware-centric incumbents who have struggled to pivot.

ServiceMaster Global Holdings offers national residential and commercial pest-control services, restoration, cleaning, furniture repair and home inspections. Pest control is a steady-growth, non-cyclical, high-return business led by a few national operations. In recent years, ServiceMaster has been the relative laggard in the industry, so the company caught our attention when it hired a new CEO in mid-2017. Since then, the new CEO has simplified the business—spinning out the American Home Shield warranty business—upgraded the management team and refocused employees on the basics of high-quality service delivery. Recent results have shown improvement, with accelerating organic growth in its core Terminix[®] franchise—and giving us confidence to increase the position within the GardenSM.

Similarly, Alexion Pharmaceuticals is a new management story. The company has faced two primary issues in recent years: First, the risk that its core franchise Soliris[®] (for several rare diseases) will be impaired by generic competition in the early 2020s; and second, the prior management team impaired a significant amount of capital on its acquisition of Synageva. We believe the outlook has since brightened materially. An improved version of Soliris[®] (Ultomiris[®]) was approved in December in the US—ahead of schedule. We anticipate a significant majority of Soliris[®] patients globally will switch to the more convenient Ultomiris[®] well ahead of the eventual entry of generic Soliris[®] competition. Further, the new management team has focused on smaller, lower-risk, more diversified acquisitions and partnerships to help restock the company's long-term R&D pipeline. Meanwhile, it has been disciplined on costs, and the company is generating significant cash flow that gives management the continued ability to invest in future growth drivers.

Conversely, we also concluded our campaigns in Box, Concho Resources and Wabtec, while paring our exposure to Atlassian,

Edwards Lifesciences and Lululemon. Box is a leading provider of cloud-based enterprise file-sharing and enterprise content management (ECM) software. We initiated our campaign in October 2017 on the thesis that its ECM platform was gaining traction as the company added products and features that distinguished it from competitors. Since then, we have seen few signs the profit cycle is taking hold as we anticipated, and we consequently chose to upgrade our capital in Q1 into more compelling opportunities, such as the aforementioned Arista Networks.

Concho Resources is an oil exploration and production company with top acreage in the US's Permian Basin. However, Permian profit cycles have proven difficult to predict, as commodities-price volatility and regional infrastructure constraints have interrupted company-specific momentum several times in recent years. We have much higher long-term conviction in the data providers (such as IHS Markit) and technology suppliers (like Gardner Denver) into the energy patch—particularly given these companies have multiple growth drivers beyond solely or primarily energy.

Wabtec is a leading component supplier to the freight and transit rail markets. We have held it as we expected it was well-positioned to capitalize on growing demand for its automation technology aimed at improving rail safety and efficiency. We also anticipated it would capitalize on recent acquisitions to broaden its growth runway as more cyclical headwinds fade. However, the company's planned GE merger has raised questions with investors, including us, and introduces new risks. Given other, more compelling opportunities elsewhere, we chose to exit our position.

Atlassian, a leading provider of innovative, customizable team-collaboration software tools for enterprises, continues to deliver impressive results. We remain confident in the fundamental outlook as companies of all sizes continue adopting its team-collaboration software tools and as the company continues expanding its product offerings into increasingly enterprise-wide solutions. We have kept the position size under control as the valuation has increased; however, it remains a high-conviction, long-term holding.

Edwards Lifesciences is the leader in transcatheter aortic valve replacements (TAVR)—one of the fastest-growing, large medical device markets globally. In March, the company released results from its landmark clinical trial studying its SAPIEN 3 heart valve in lower-risk aortic stenosis patients. Data showed impressive superiority for Edwards' less invasive, catheter-based valve compared to traditional open-heart surgery—de-risking a meaningful next leg of growth for the transcatheter valve market. Though we maintain our conviction in Edwards' competitive position in the TAVR market and its compelling new product pipeline in transcatheter mitral valves, we trimmed our position based on valuation and as the stock appreciated into larger-cap territory.

Designer and retailer of yoga-inspired apparel Lululemon has similarly delivered strong results. We have held it as we anticipated its recently

upgraded management team would put several years of struggles behind the company and drive higher traffic not only in brick-and-mortar stores, but also online via compelling new product offerings and an impressive digital marketing campaign. These efforts are bearing fruit in the form of accelerating sales both online and in international markets. While we maintain our conviction that Lululemon's profit cycle will be durable, with the valuation now more demanding, we have learned it's best to use extra valuation discipline when it comes to retail growth stocks.

Portfolio Statistics

As of March 31, the portfolio had a median market cap of \$12 billion and a 3-5 year forecasted weighted average earnings growth rate of 17%. Our holdings were selling at a weighted harmonic average P/E (excluding negative earnings) of 27X FY1 earnings and 24X FY2 earnings. As of quarter end, we held 67 positions. Our top 20 holdings accounted for roughly 55% of portfolio assets as of quarter end. Our top 30 holdings represented about 69% of portfolio assets.

Perspective

We have emphasized over the past couple years the degree to which markets can be highly volatile—a fact easily lost sight of by many investors amid an ongoing, long bull market. Markets provided a sharp reminder in 2018—especially in Q4—as macroeconomic uncertainty picked up. We have also noted that during the early stages of a sharp correction, our stocks can go down every bit as much as (if not more than) the market, as investors seek to de-risk portfolios by selling higher-multiple growth stocks.

But ultimately, we gravitate toward businesses that are less dependent on the overall strength of the underlying global economy and are more driven by factors such as innovation, demographic changes and internal change catalysts. Our assessment during the Q4 selloff that those drivers remained intact for the businesses we hold in the portfolio gave us the confidence to take advantage of the attractive valuations we were seeing. Those decisions largely paid off in Q1 as investor confidence returned to markets.

Against the backdrop of Q4's correction and the market's subsequent Q1 bounce-back, we kept our heads down, researching new secular trends and investment ideas which are yielding a solid pipeline of high-quality franchises that we believe are on the cusp of compelling, long-term potential profit cycles. For example, we did extensive work during the quarter building conviction in a number of new pharmaceutical profit cycles.

We are certainly cognizant that pharmaceutical pricing regulation is in the headlines—but simultaneously, we tend to focus on innovative companies that can bring new drugs to market, as opposed to raise prices on old drugs. Amid these efforts, we have been building positions in a number of mid-cap companies with important new medicines, including the aforementioned Alexion Pharmaceuticals,

whose new drug Ultomiris® represents meaningful improvement over its predecessor Soliris®.

Also included in this category is Genmab, which released data on its drug Darzalex® during the quarter that should establish this drug as the standard of care for newly diagnosed multiple myeloma patients going forward. And it also includes several GardenSM holdings in the portfolio (Sage Therapeutics, Ascendis Pharma and Argenx) that have made significant progress in recent quarters de-risking their new drug pipelines.

This is the essence of our disciplined approach to identifying profit cycles: Regardless of the market environment, we conduct in-depth research across markets, eschewing growth at any price in favor of high-quality, durable franchises which we believe are trading at attractive valuations relative to the opportunity we believe is ahead of them.

That said, though we are enthusiastic about the output of our research efforts, we simultaneously recognize that valuations have quickly reverted to higher levels, and many of the macro concerns that plagued markets in 2018 have not been completely dispelled. As such, we certainly wouldn't be surprised to see ongoing market volatility in the coming quarters. Regardless, we will stay focused on looking for compelling new profit cycles, and we will remain disciplined about what we pay for them, as we have over the course of our history.

For more information: Visit www.artisanpartners.com

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This summary represents the views of the portfolio manager as of 31 Mar 2019. 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.

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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. Mid-Cap Growth Strategy

Quarterly Contribution to Return (%)

As of 31 March 2019

Top Contributors	Average Weight	Contribution to Return	Ending Weight
Global Payments Inc	4.94	1.48	5.25
Veeva Systems Inc	3.67	1.41	3.90
Worldpay Inc	2.70	1.14	3.34
Atlassian Corp PLC	4.42	1.13	4.28
The Progressive Corp	3.49	0.82	3.47
Roper Technologies Inc	2.53	0.67	2.71
Alexion Pharmaceuticals Inc	1.88	0.64	2.09
Wayfair Inc	1.30	0.64	1.43
Gardner Denver Holdings Inc	1.82	0.60	2.03
Zynga Inc	1.71	0.56	1.80
Cree Inc	1.81	0.56	1.99
Exact Sciences Corp	1.52	0.55	1.46
IHS Markit Ltd	3.79	0.54	3.71
lululemon athletica inc	1.42	0.54	1.24
Harris Corp	2.44	0.47	2.45
Guidewire Software Inc	2.17	0.46	2.22
Motorola Solutions Inc	2.17	0.46	2.27
The New York Times Co	1.10	0.45	1.16
HubSpot Inc	1.44	0.45	1.43
Aptiv PLC	1.52	0.42	1.53
Advanced Micro Devices Inc	1.13	0.40	1.44
Roku Inc	0.45	0.39	0.00
The Trade Desk Inc	0.65	0.36	0.76
First Republic Bank	2.04	0.35	1.96
Edwards Lifesciences Corp	1.43	0.34	1.23
Chipotle Mexican Grill Inc	0.62	0.33	0.72
Boston Scientific Corp	3.37	0.33	3.19
TransUnion	1.67	0.29	1.70
PageSecuro Digital Ltd	0.58	0.29	0.66
Lonza Group AG	1.42	0.28	1.59
Cintas Corp	1.30	0.27	1.28
Agilent Technologies Inc	1.33	0.25	1.33
Tableau Software Inc	3.22	0.25	3.05
Align Technology Inc	0.91	0.24	0.57
Temenos AG	1.08	0.23	1.12
Lam Research Corp	0.68	0.22	0.00
Fortive Corp	0.99	0.21	1.15
Sage Therapeutics Inc	0.58	0.21	0.68
Canada Goose Holdings Inc	1.53	0.19	1.39

Bottom Contributors	Average Weight	Contribution to Return	Ending Weight
Take-Two Interactive Software Inc	1.33	-0.18	0.99
ABIOMED Inc	0.68	-0.12	0.88
DexCom Inc	0.29	-0.10	0.51
Argenx SE	0.15	-0.02	0.47
Ascendis Pharma A/S	0.20	-0.01	0.73
Skyworks Solutions Inc	0.17	0.01	0.75
MSCI Inc	0.02	0.01	0.26
First Solar Inc	0.22	0.01	0.50
Ceridian HCM Holding Inc	0.05	0.01	0.51
Cash Holdings	3.01	0.02	2.12
Hasbro Inc	0.62	0.02	0.76
Treasury Wine Estates Ltd	0.52	0.03	0.00
DocuSign Inc	0.40	0.03	0.58
Ctrip.com International Ltd	0.16	0.03	0.72
Wabtec Corp	0.48	0.04	0.00
Zscaler Inc	0.07	0.04	0.27
Albemarle Corp	1.09	0.05	1.13
Twitter Inc	0.35	0.06	0.00
Box Inc	0.04	0.07	0.00
Concho Resources Inc	0.41	0.07	0.00
Broadridge Financial Solutions Inc	0.84	0.07	1.01
Maxim Integrated Products Inc	0.71	0.08	0.00
MarketAxess Holdings Inc	0.52	0.08	0.53
Genmab A/S	1.81	0.09	1.98
TD Ameritrade Holding Corp	1.55	0.10	0.83
Under Armour Inc	0.62	0.11	0.63
FLIR Systems Inc	0.88	0.11	0.21
Arista Networks Inc	0.37	0.12	1.24
Insulet Corp	0.75	0.13	0.90
ServiceMaster Global Holdings Inc	0.65	0.13	0.95
Expedia Group Inc	1.86	0.14	1.71
Ollie's Bargain Outlet Holdings Inc	0.49	0.14	0.50
West Pharmaceutical Services Inc	1.07	0.14	1.07
Stanley Black & Decker Inc	0.89	0.16	0.00
SVB Financial Group	0.77	0.16	0.69
Cognex Corp	0.71	0.16	0.95
Trimble Inc	0.86	0.17	0.98
WellCare Health Plans Inc	0.98	0.17	1.04
Neurocrine Biosciences Inc	0.59	0.18	0.00

Source: Artisan Partners/FactSet. Performance is historical and is not a reliable indicator of future results. As of 31 Mar 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.