Value Investor INSIGHT
The Leading Authority on Value Investing
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It's High Time

Time-tested investors Yen Liow, C.T. Fitzpatrick, Christopher Smith, Dev Kantesaria and Andrew Brenton describe the opportunities and challenges they see in today's investing environment, how they stay prepared for adversity, and why they believe current holdings Five Below, Curtiss-Wright, Zoetis, Fair Isaac and Jen-Weld deserve particular mention.

INVESTOR INSIGHT

Christopher Smith
Artisan Partners

Editors Note: *Even if you'd seen with clear foresight the onset of the pandemic (and how many of us did that?), it's highly unlikely you would have with equally clear foresight judged the equity market's path since March of 2020: The steep decline, the rapid rebound, the rotation from growth to value and back again, and a calendar year 2021 that's almost over in which stocks have hit new highs with almost metronomic regularity.*

To help make sense of the investment environment today, we asked five market-beating portfolio managers to offer their views on the equity opportunity set at hand, where they're finding interesting things to do, and how they try to be prepared for whatever the market serves up next. If you're expecting a dour bunch sitting on their hands and bemoaning a dearth of actionable bargains, read on. That isn't the case at all.

When we last spoke [*VII*, July 31, 2020], you described looking for ideas in industries inflecting long-term for the better where you see earnings-power upside the market is missing. In a market where earnings-power upside seems pretty well appreciated, are you finding good ideas tough to come by?

Christopher Smith: I actually wouldn't say that. The economy is very strong and earnings have been increasing rapidly, but while growth overall can continue, the growth rate is probably pretty close to peak. Monetary and fiscal policy can continue to be expansionary, but the expansion rate is also probably pretty close to peak. When economic growth is decelerating, we think that's a fertile time for us as stockpickers. If we're right about our companies' earnings accelerating in a decelerating economic environment, that differentiated view is even more likely to create alpha for us.

If I were to generalize, I'd say our portfolio today reflects kind of the opposite of a barbell approach. We're leery of the valuations on many of the absolute-best, highest-growth companies, and we're also not so keen on highly cyclical, economically sensitive businesses at this point in the cycle. What we're finding most interesting are up-the-middle, good companies that are beating estimates and we think for both industry and company-specific reasons are going to continue to do so.

That calls for an example or two.

CS: One representative example would be Palo Alto Networks [PANW]. The company is a leader in cybersecurity, focused on providing both hardware and software firewall technology that protects customer IT networks in a broad range of end markets, including education, financial services, government, healthcare and energy. It has 90,000 customers, by far the largest installed base in the industry.

It's not a secret that companies are spending on cybersecurity, but we think the growth in that spending is inflecting at a higher rate than is generally assumed. Big trends like increasing hybrid work, the continued shift toward cloud-based systems, and the digitization of enterprises in general via artificial intelligence and machine learning all increase the opportunity for hackers to get where they shouldn't be. Companies are making good money and they're spending it to guard against that.

Palo Alto itself has done an excellent job of rolling out new products and continuing to shift its legacy hardware customers to a more comprehensive integrated platform with both hardware and software elements. Subscription-based cloud services today generate more than 70% of revenues – which are recurring and higher-margin – and that number should increase to 85% or so by 2025.

We think the company can grow revenue over the medium term at least 20% per year and free cash flow at closer to 30% annually. On our $30-per-share estimate of 2024 free cash flow – which is materially above what the Street expects – the stock today trades at just over 18x, which we don't think is at all aggressive. At a time when the market seems more obsessed with hyper growth, we're finding value in things like this.

Describe your broader investment case for animal-health company Zoetis [ZTS].

CS: The company is a proven innovator in animal-health medicines and vaccines, with roughly two-thirds of the business tied to pets and the other one-third focused on livestock. We'd describe the livestock business as stable and fine, but our real interest here is on the pet side, where for both industry and company-specific reasons we see underappreciated growth potential.

Roughly two-thirds of U.S. households own a pet – just over 100 million cats and just under 100 million dogs. While those numbers continued to grow through the pandemic, there's been an acceleration in the composition of pet owners shifting more to millennials and Gen Z. That's important because studies show that younger owners spend roughly 50% more on their pets than baby boomers over time. The impact of that shows up more as pets get older, so while it's maybe not evident yet, we see that demographic shift as a long-term structural change bumping up overall annual industry growth from 4-5% to closer to 7-8%.

We also see unrecognized growth potential from a number of the company's recent innovative product launches. We've done research throughout the veterinary-health value chain and believe new products in dermatology, parasiticides and pain management offer pioneering solutions to common pet health problems for which there will be increasingly high demand. Simparica Trio, for example, is the first pill to combine treatments against ticks, fleas and worms. Cytopoint is an injectable therapy for seasonal allergies and Apoquel is a daily pill for chronic itching. In pain relief, the vets we've spoken with believe Zoetis's new treatments because of their efficacy can double the size of the pain-treatment market.

Combining industry growth with the revenue upside we expect from the new products, we estimate Zoetis can increase revenue in 2022 by around $1 billion, from $7.9 billion to $8.9 billion. Consensus Street estimates are modeling only $650 million or so in growth. On top of that, as the heavy R&D spending to support new product launches runs off and the related revenues come in, we see operating margins expanding as well at about 150 basis points per year over the next few years.

The shares, recently at $223.50, have done well. Is this a position you're happy to own, but would be even happier to own if it were 20% cheaper?

CS: We think revenues can grow at an 11-12% annual rate through 2025, and that earnings can compound over that period at around 20% as the returns on invested capital go from 20% or so to 30%. To your question, if we're right about all that we still think from today's price – because we have a differentiated view – that there's attractive upside in the stock. But it's also true that if the market overall drew down for macroeconomic reasons that this is a name where our model would probably not change a lot. So if it got cheaper, all the better.

In your latest quarterly letter – which we're excerpting almost in full elsewhere in this issue – you argue that investors focus too much on their batting average and not enough on their slugging percentage. What prompted that?

CS: It's something I've thought about for a long time and have tried to incorporate from the beginning in how we invest. My basic point is that as hard as you try as an investor, you're probably going to be right on your ideas 50-55% of the time. What's going to have a greater impact on your ability to generate alpha is being more right when you're right and less wrong when you're wrong.

If you recognize that, you're more likely to concentrate in your best ideas, you're more likely to invest only when you have a materially differentiated view, and you're going to build into your process support for readily admitting you're wrong and rooting out losers quickly. We'd like to think we do all that, that it distinguishes us from a lot of other managers, and that if we're good at it we have a higher probability of success. VII

Hitting for Power

Investors often emphasize being right more often than wrong as the prime contributor to success. Christopher Smith explains why he thinks that "casually accepted truism ... is incomplete at best and flat wrong in many respects."

Editor's Note: *In his latest quarterly commentary Chris Smith of Artisan Partners' $5 billion (assets) Antero Peak Group [**see also p. 7**] examines the virtues of – to use a baseball analogy – hitting for power rather than batting average as an investor. He prefaces the piece with a quote from investor Stanley Druckenmiller: "I've learned many things from [George Soros], but perhaps the most significant is that it's not whether you're right or wrong that's important, but how much money you make when you're right and how much you lose when you're wrong." Smith explains why he believes that concept is so important for an investment manager and how he's built it into his process accordingly. The following excerpt from his commentary is shared with his permission.*

We often hear the batting average (or "hit rate") baseball analogy in an investing context as something along the following lines: "If you can be right more than 50% of the time, you will be successful." This is a casually accepted truism in our industry. Yet in practice, we believe this concept is incomplete at best and flat wrong in many respects. We have given this idea a great deal of attention in creating both our investment and risk-management processes, and we take a different stance. Here, we will share some of our thoughts on this topic, as we think there are strong mathematical grounds that demonstrate the benefits of our process and culture, which is much more focused on "payoff" versus "batting average." Analytics has changed baseball significantly in the past decade – out with batting average and in with on-base plus slugging, or OPS. Why can't it have the same effect on our industry?

We believe that our process structured around a focused portfolio requires an exceptionally high level of upfront diligence and ongoing analyst focus. The intent of this approach is to maximize payoff – the profitability of relative winners to relative losers – and to optimize sizing, with hit rate a lesser priority. We emphasize large, broad-based and industry-wide inflections that can lead to significant earnings differentiation and sustained changes in valuation multiples. This stands in marked contrast to many widely employed processes that focus on lower concentration and much less tracking error relative to their benchmarks.

Our process leads to higher concentration, and just as important, it leads to far less patience with remaining flat footed with losing positions! This may contribute to higher turnover, but we believe cutting losers is mathematically just as important as sizing up winners. Forgoing this lever in your process will dilute the payoff ratio significantly, and thus the alpha potential.

Laying Out the Math

Defined below are some simple but important items when deconstructing a portfolio's performance.

$$\text{Excess Return} = \text{Hit Rate} * \text{Avg. Profit on Winners} + (1 - \text{Hit Rate}) * \text{Avg. Losses on Losers}$$

$$\text{Hit Rate \%} = \frac{\text{Positions that Beat the Benchmark}}{\text{Total Positions}} \qquad \text{Payoff} = \frac{\text{Profit on Winners Relative to Index}}{\text{Losses on Losers Relative to Index}}$$

Observing the interplay of these variables is revealing. Most portfolios, regardless of how many analysts are on staff, have batting averages around 50% – with the top tier around 55%. This implies a remarkably tight band and sheds light on the natural efficiency of the stock market in aggregate. Payoff levels, in contrast, demonstrate far wider variation from the mean, while having a far greater impact on returns for an unlevered portfolio with reasonable volatility.

For a portfolio with single-name relative volatility of around 10%, the lack of batting-average sensitivity that annual returns have is striking and perhaps nonintuitive. In the example laid out in Exhibit 1, an equally weighted portfolio moving from an industry average hit rate (~50%) to best-in-class (~55%) generates just 100 basis points of additional alpha. On the other hand, improving the payoff from average to top tier has more than 5x the impact on excess returns.

Exhibit 1: Illustrative Sensitivity of Hit Rate and Payoff

Excess return potential by increasing hit rate and payoff percentage

	Payoff %						
Hit Rate %	80%	100%	120%	140%	160%	180%	200%
50%	-1.0%	0.0%	1.0%	2.0%	3.0%	4.0%	5.0%
51%	-0.8%	0.2%	1.2%	2.2%	3.3%	4.3%	5.3%
52%	-0.6%	0.4%	1.4%	2.5%	3.5%	4.6%	5.6%
53%	-0.5%	0.6%	1.7%	2.7%	3.8%	4.8%	5.9%
54%	-0.3%	0.8%	1.9%	3.0%	4.0%	5.1%	6.2%
55%	-0.1%	1.0%	2.1%	3.2%	4.3%	5.4%	6.5%

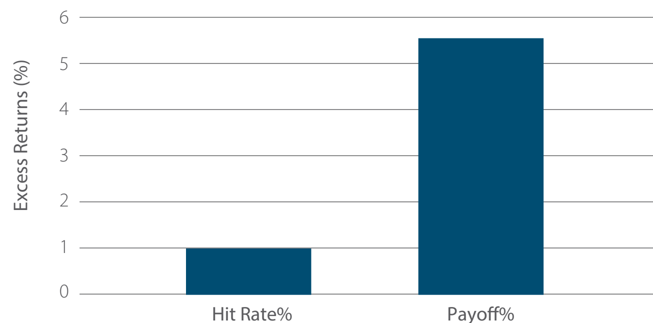
Excess Returns

Source: Artisan Partners. For illustrative purposes only. Excess returns based on incremental increases in hit rate and payoff percentages. Based on an equally weighted portfolio with average single name volatility of 10% from the benchmark.

Because of this, we incorporate an unemotional and ruthless approach that recognizes some simple truths. First, we are going to be wrong often. The unemotional acceptance of this fact has a profound impact on our process and intellectual honesty. We believe we can significantly amplify our returns by recognizing this early on. While seemingly simple, executing this effectively requires a unique, analytically disciplined operating culture of humbleness and self-awareness that we've worked very hard to build and maintain. Second, we are also going to be right a lot, and maximizing these instances with aggressive sizing can gener-

ate substantial alpha. The combination of these factors is a powerful driver of excess returns in a portfolio, far more powerful than what most focus on, the hit rate.

Exhibit 2: Illustrative Impact of Moving from Average to Top Tier
Improving Payoff % to best-in-class would increase excess returns 5X more than improving to best-in-class Hit Rate %



Source: Artisan Partners. For illustrative purposes only. Excess returns for hit rate based on moving from average (50%) to top tier (55%). Excess returns for payoff percentage based on moving from 100% to 200%. Based on an equally weighted portfolio with average single name volatility of 10% from the benchmark.

With this as context, let's also consider some common investment process descriptions of our peers and some constraints that exist within the industry. We frequently hear industry lingo such as knowing companies or management teams better than everyone else – we view this as a requirement of the job and not an edge. Another is buying stocks with significant upside to intrinsic value – again, a requirement of the job and not an edge. Others include low turnover, balanced sector exposure to benchmark, lower tracking error, etc. The list goes on and on.

Consider these statements in the context of the simple analysis already laid out. Empirically, batting average is highly likely to be around 50%, so the drive toward very low turnover handcuffs the manager's ability to aggressively cut losing positions, which depresses the payoff ratio. At the same time, the drive for balance and fear of volatility further lead to under capitalization on the best ideas, yet again pressuring the payoff ratio.

Indeed, these common constraints remove many things that appear to us mandatory for success. It is no surprise in this analysis that if all these rules are followed, even an army of the best analysts is likely to outperform the benchmark only slightly before fees. Paradoxically, these concepts in total for the most part have led to mediocrity in the industry. Said another way, if a team does great research (knows their companies well), has very low turnover and/or low tracking error (balanced sectors, less concentration, etc.) and even achieves an above-average hit rate, its excess returns will probably be somewhere around the equity-fund average fee level of 80 basis points. It's just math.

We view this as strong evidence that we are deploying our most scarce resource well, which we have often said is our time. Our process aims our time and attention naturally toward the largest investments, but also the investments that are not working. We are constantly assessing if we are wrong. We have systems in place to alert us to negative revisions in our fundamental analysis, which allows us to reduce risks earlier in areas where there is adverse change. We know what matters for an investment, and we track those areas intensely.

Maximizing payoff permeates through our process. First, we are extremely focused on not losing money and are continuously probing conviction levels on losing positions, especially when they are large but even when they are small. It has been very rare so far for us to suffer a significant loss on a single position. The systematic structure of our process helps us do this as it aims to remove as much emotion as possible – earnings differentiation and expected outcome are our research outputs. As our research outputs change our perspective changes, and our process leaves little room for us to defend a losing position without sound analytic reasoning. Second, we aim to employ a symmetric process. We are constantly assessing the sizing of winning positions as our thesis plays out, as well as whether we are maximizing our research. Ultimately, all aspects of our process – from our culture to our day-to-day research – are geared towards this outcome, and we are happy that our results reflect what we fundamentally believe drives investment results.

Importantly, if we maintain focus on analytical differentiation and employ a robust risk-management process, there is no mandatory trade-off that results in elevated risk. We have produced positive excess returns (Exhibit 3) with our approach of elevated concentration, high sector active weightings and active portfolio management, without greater volatility or drawdowns.

Exhibit 3: Summary Risk Statistics
As of 30 September 2021

	Annualized Return ITD	Std Dev	Sharpe Ratio	Max Drawdown	Beta
Artisan Focus Fund (ARTTX)	25.4%	15.2%	1.6	-14.5%	0.9
S&P 500® Index	16.5%	15.9%	1.0	-19.6%	0.0

Source: Antero Peak Group/S&P/MSCI. Inception: 24 Apr 2017. Risk and return statistics from 1 May 2017 to 30 Sep 2021. **Past performance does not guarantee and is not a reliable indicator of future results.**

We aim to maximize our research efforts through an obsessive focus on optimizing the payoff, which we think is one of our most effective tools to generate risk-adjusted alpha. Our underlying process remains unchanged and we remain committed to finding inflection points that can lead to accelerations in revenue and earnings. We also seek differentiation vs. consensus and thesis duration that can lead to more sustainable ROIC growth and multiple expansion. We think this combination of rigor and culture gives us a higher probability of achieving investment success. VII

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Carefully consider the Fund's investment objective, risks and charges and expenses. This and other important information is contained in the Fund's prospectus and summary prospectus, which can be obtained by calling 800.344.1770. Read carefully before investing.

Investment Results as of 30 Sep 2021 (%)						Expense Ratios
Artisan Focus Fund	QTD	YTD	1 Yr	3 Yr	ITD	Prospectus 30 Sep 2020
Investor Class: ARTTX	**1.97**	**9.79**	**25.70**	**19.81**	**25.36**	**1.32%**
Advisor Class: APDTX	**1.96**	**9.88**	**25.84**	**19.97**	**25.48**	**1.15%**
Institutional Class: APHTX	**2.00**	**9.97**	**25.93**	**19.96**	**25.47**	**1.06%**
S&P 500® Index	0.58	15.92	30.01	15.99	16.52	-

Source: Artisan Partners/S&P. Returns for periods less than one year are not annualized. Class inception: Investor (24 April 2017); Advisor (31 July 2018); Institutional (3 February 2020). For the periods prior to inception, Advisor Class and Institutional Class performance is the Investor Class's return for that period ("Linked Performance"). Linked Performance has not been restated to reflect expenses of the Advisor and Institutional Classes and the share class' returns during that period would be different if such expenses were reflected

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The discussion of portfolio holdings does not constitute a recommendation of any individual security. These holdings comprise the following percentages of the Artisan Focus Fund's total net assets as of 30 Nov 2021: Palo Alto Networks Inc 2.6%, Zoetis Inc 4.6%. For the purpose of determining the portfolio's holdings, securities of the same issuer are aggregated to determine the weight in the portfolio. Securities mentioned but not listed here were not held as of the date of this report. Portfolio holdings are subject to change without notice and are not intended as recommendations of individual securities.

Portfolio statistics are obtained from various data sources and intended to provide a general view of the portfolio, or Index, at a point in time. Artisan Partners excludes outliers when calculating portfolio characteristics and may use data from a related security to calculate statistics if information is unavailable for a particular security. Exposure Pct Assets represents the portfolio's exposures based on the economic value of investments (including delta-adjusting options exposures). Delta-adjusted options exposure is a measure of the market exposure created by the options and accounts for the sensitivity of options to changes in price of the underlying security. In comparison, measuring the exposure of an option at the market value of the option or notional value can understate or overstate, respectively, the economic exposure and risk. This estimate of portfolio exposure is only an approximation of the portfolio at a point in time.

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Return on Invested Capital (ROIC) is a measure of how well a company generates cash flow relative to capital invested in the business. Drawdown is a peak-to-trough decline during a specific period for an investment.

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