Value Investor INSIGHT
The Leading Authority on Value Investing
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Alternative Alternative

Connor Browne and Bimal Shah of Thornburg Investment Management describe how and why they strive for balance on the long and short sides of their portfolio, how the perceived "threat of Amazon" can provide fertile ground for ideas, why they're bullish on US Foods, and why they see challenges ahead for Plantronics and Computer Programs & Systems.

INVESTOR INSIGHT

Connor Browne
Thornburg Investment Management

Seeing a competitive opening, Connor Browne convinced his Thornburg Investment Management colleagues in 2016 that the long/short equity hedge fund he ran deserved a makeover. "The strategy is exactly the same, but it's now through a mutual fund with much lower fees, daily liquidity and full transparency," he says. "We think the hedge-fund space is ripe for disruption."

Success will require Browne adding value on both the short and long sides, as he's done since the original fund's 2008 launch. It has since earned a net annualized 8.6%, vs. 2.4% for Morningstar-tracked peers. Among areas where he and associate Bimal Shah see mispricing today: food distribution, telecom and healthcare information techology.

You talk a lot about balancing the types of companies in your Long/Short Equity Fund. Describe why that's important and how you go about doing it.

Connor Browne: We want our results to be as much about our ability to do quality fundamental research and analysis as possible. If you're not well diversified on the long and short sides in a similar way, things other than fundamental stock-picking ability – like macroeconomic factors and industry cycles – can inordinately drive the outcomes of the portfolio and make them more volatile.

ON LONG/SHORT EQUITY:

After a long run in stocks and with rising interest rates, you need another answer to diversify. This is a good one.

It's not the only way, but one important way we balance the portfolio is by trying to identify ideas that fit into three baskets that more or less offset each other on the long and short sides. While we'll look to own "growth industry leaders" that have leadership positions in growing markets, we'll also look to short "cycle victims" that we believe are overvalued and face deteriorating industry dynamics. We like "consistent growers" that we think have an ability to generate steady earnings and revenue growth, offset broadly by what we call "stumbling stalwarts," which may still be perceived as steady earners but we believe are in decline, say, due to changing technology or new competition.

Finally, at the same time we're looking to buy "emerging growth companies" that are addressing a new market or carving a new niche in an existing one, we want to have similar short exposure to "falling stars" that have grown fast and have earned premium valuations but we think have or are about to hit a wall in terms of growth.

While our shorting clearly is meant as a hedge to our longs to reduce overall portfolio volatility, I'd add that we're also looking to generate alpha. We explicitly expect our short book to underperform the overall market.

Is it fair to say your long strategy is more focused on growth than value?

CB: In the long/short fund I'd characterize it as looking for growth at a reasonable price. For example, we recently built a position in United Parcel Service [UPS]. We've long had appreciation for route-based delivery businesses that have excellent operating leverage as they pick up scale, and UPS has a strong market position in package delivery, which we consider a growth business due to the expansion of e-commerce. Of course you can't discuss almost any stock today without mention of Amazon, and there is concern here that it will increasingly compete with UPS in the future. But just as we see short opportunities when we think the market underappreciates the threat of Amazon, in this case we believe the market is overestimating Amazon's ability to take on UPS and disrupt what we see as its predictable and consistent growth in sales and earnings. We see good value in the shares at just 15x forward earnings today.

How does something like pharmaceutical company Gilead Sciences [GILD] fit your profile of an attractive long?

CB: The company is going through a fairly dramatic transformation as its Hepatitis C franchise has become a victim of its own success in curing people with the disease. Gilead's revenues from Hep-C treatments went from almost nothing in 2013 to $19 billion in 2015, but we now project sales this year from Hep-C at around $4 billion. This dramatic decline has been a challenge, but we believe quarterly earnings bottomed in the first quarter and with Hep-C at the end of this year representing only 12% of gross profits, the strength of the company's HIV franchise can drive mid-teens annual growth in EPS over the next five years. And that includes no upside from high-potential pipeline drugs focused on things like autoimmune diseases and the liver disease NASH.

This is a case where we think the 11.5x earnings multiple on next year's earnings is just way too cheap. At 15x our 2020 EPS estimate, Gilead's stock would trade at more than $120, which is 60% above the current price. [Note: Gilead shares traded recently around $76.]

What do you consider the best arguments for a long/short strategy today?

CB: What a long/short equity strategy can provide is uncorrelated return. We run net long – our net exposure has averaged just below 35% over the last five years and is 30% today – so we have some market exposure, but mostly we're trying to generate outperformance through our stock selection on both sides of the book. Our value add from picking stocks is uncorrelated to what the overall market is doing. Done well and in combination with other assets, that can add real value in a portfolio.

After a long bull market it's a reasonable time for investors to harvest winnings, especially from U.S. large-cap exposure. Historically, bonds might be the first place to go to diversify risk away from stocks, but that's less attractive in a rising interest-rate environment. We'd argue long/short with low net exposure is a better diversifying strategy. In our case you'd have only 30% of the exposure relative to the broader market, but through stock selection you have the opportunity to improve upon 30% of the index return. After a long run in stocks and with rising interest rates, we think you need another answer and this is a good one.

ON RESEARCH:

We focus first on "reason-for-being" analysis, examining products and services from the customer's point of view.

Specifically with respect to shorting, we may be at the end of an unprecedented period of easy money that has allowed businesses without durable advantages and with leveraged balance sheets to exist longer than they otherwise would have. There's no question this has been a headwind on the short side, but when easy money dries up, we expect that to be quite positive for the shorts in our book.

Is your analytical process in researching shorts the same as it is with longs?

CB: For the most part, yes. In either case we focus first on what we call "reason-for-being analysis," which basically examines the company's products or services from the customer's point of view. Does the product or service fill a differentiated customer need? Can it be provided at an attractive price? How durable is its competitive advantage?

Bimal Shah: It's also critical to isolate the key drivers of the business and then spend your time trying to understand and predict how those will work for or against the company going forward. A successful short for us in recent years was LendingClub [LC], which when it came public in late 2014 positioned itself as a technology company that was going to disrupt bank lending. In the lending business, however, advantage tends to come from a lower cost of funding or better underwriting, and on those fronts LendingClub looked like just another consumer-finance company with no competitive advantage. It relied on wholesale funding, which isn't particularly cheap or stable. As for underwriting, that's an experience-based effort where it wasn't clear what a brand-new company brought to the table.

They were successful in selling the story and in getting tech analysts to cover the stock instead of bank analysts. The IPO priced at $15, which was already a head-scratcher to us, and the stock went above $25 on day one. We were able to get a borrow and started shorting around that level. Within a year or so we were out, with our final cover price at around $7. [Note: LendingClub shares currently trade at $3.60.]

Let's talk in detail about a short idea or two. Describe the challenges you see ahead for headset maker Plantronics [PLT]?

BS: In technology we generally prefer shorting companies that make hardware rather than software. Hardware companies are just more likely to be vulnerable, with lower profit margins, higher earnings volatility and more difficulty establishing sustainable competitive advantages.

Plantronics manufactures hands-free headsets and, following the $2 billion acquisition last month of Polycom, is also a big player in phone and video-conferencing equipment. The company bills it as a merger with great potential for revenue and cost synergies, but we'd argue it's just a combination of two hardware companies that each face structural and competitive challenges.

The structural challenge is that the enterprise market for phone and confer-

INVESTMENT SNAPSHOT

Plantronics
(NYSE: PLT)

Business: Design, manufacture and marketing of lightweight communications headsets, telephone headset systems and other communication endpoints and accessories

Share Information (8/30/18):

Price	**67.36**
52-Week Range	41.85 – 82.28
Dividend Yield	0.9%
Market Cap	$2.68 billion

Financials (TTM):

Revenue	$874.3 million
Operating Profit Margin	14.6%
Net Profit Margin	(-0.6%)

Valuation Metrics
(@8/30/18):

	PLT	S&P 500
P/E (TTM)	n/a	24.1
Forward P/E (Est.)	13.8	17.7

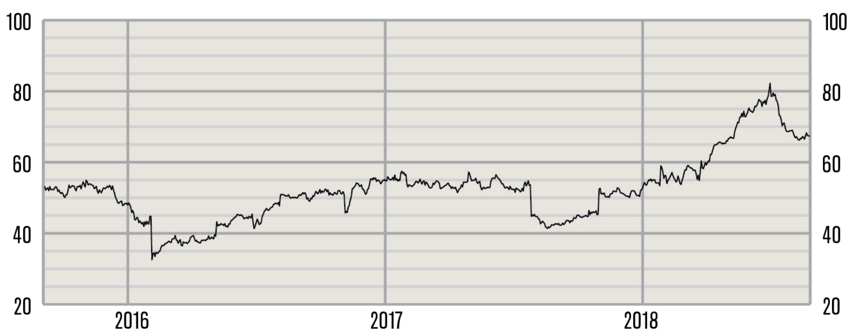
Largest Institutional Owners
(@6/30/18 or latest filing):

Company	% Owned
Primecap Mgmt	12.2%
BlackRock	8.8%
Vanguard Group	8.0%
Disciplined Growth Inv	4.7%
State Street	3.0%

Short Interest (as of 8/15/18):

Shares Short/Float	4.7%

PLT PRICE HISTORY



THE BOTTOM LINE

The company is not well positioned as its target enterprise market shifts more toward a unified-communications model – centered around personal computers – for its voice-communication and videoconferencing needs, says Bimal Shah. At 8x his estimate of 2020 EBITDA on an enterprise value basis, the share price would fall to the mid-$40s.

Sources: Company reports, other publicly available information

encing equipment is shifting more to a unified-communications model, where personal computers are at the center. That lessens the need not only for traditional IP phones with headsets, but also for the type of video-conferencing equipment the new company will be trying to sell.

Making matters worse is that Plantronics faces greater competition on multiple fronts. Cisco this year acquired BroadSoft, a global leader in selling unified communications as a service, and has been ramping up its hardware/software offering that it is expected to price aggressively to its large customer base. Microsoft, which historically has been a good partner for Polycom, has started showcasing competing products from Logitech [LOGI], including a video-conferencing system for mid-sized conference rooms that is roughly one-tenth the price of the competing Polycom system. In IP phones, there's also increased low-cost competition on the way from Chinese manufacturers.

It's interesting to note that Polycom had been private for just 18 months before its private equity owner, Siris Capital, decided to sell it. The company while Siris owned it didn't significantly invest in R&D or new product development, and we think the goal was to combine Polycom with BroadSoft and its software-as-a-service business. When Cisco bought BroadSoft instead, Siris thought better of going it alone with a no-growth hardware company and decided to sell.

How are you looking at downside for the shares, which at a recent $67.40 are up nearly 60% from a year ago?

BS: The stock has traded down somewhat after the closing of the Polycom deal and a relatively weak second-quarter earnings report. But Street models we've looked at still are building in 15% annual top-line growth for the company, which given the actual experience of both Plantronics and Polycom in recent years and the increasingly difficult competitive environment, we just don't think is possible.

There will be merger-related savings, but if we take that into account and assume low-single-digit annual revenue growth, we estimate that earnings before interest, taxes, depreciation and amortization will peak at close to $450 million in 2020. Assuming the 8x EV/EBITDA multiple we would consider warranted for a competitively disadvantaged company with a more leveraged balance sheet – net debt to EBITDA increased to 3.5x following the acquisition – the stock would trade in the mid-$40s. That's 33% off today's price and is likely where we'd start to think about covering.

Explain why you're skeptical as well today of a software provider, Computer Programs & Systems [CPSI].

BS: CPSI earns roughly two-thirds of its revenues by providing electronic-health-records software to hospitals and acute-care facilities, typically those in rural areas with relatively low numbers of beds. The remaining sales come from its TruBridge division, which provides business-process advice and services mostly to the existing client base.

Here too we think the company is structurally and competitively disadvantaged. It has good relationships with its customers, but it's selling primarily an on-premise legacy software system at a time when client demand is shifting to subscription-as-a-service solutions that are more efficient and cost-effective. CPSI has underinvested in R&D for many years, preferring to pay out most of its cash flow as dividends, and now finds itself with an inferior and outdated product offering. That has allowed newer SaaS-based competitors such as Athenahealth and eClinicalWorks as well as bigger competitors like Cerner to capture market share.

Complicating the situation is that many hospitals in CPSI's target market have been struggling in recent years due to patient-volume declines and reimbursement cuts from both government and private payers. That's put spending on information technology on the back burner. One offset to that has been a government incentive program known as Meaningful Use, which promotes spending on electronic-health-record technology. Unfortunately for CPSI, that program is winding down at the end of this year.

The TruBridge consulting business has been growing nicely. Could it get to a size to derail your short thesis?

BS: TruBridge is a people-intensive business focused on outsourcing things like coding, claims submission, collections and claims denial management. While it's growing, it's not growing fast enough or profitably enough to compensate for the challenges we see on the software side.

The stock took a header after the company's Q2 earnings release. Now at $27.40, do you see much downside left?

BS: The company took on leverage to buy a large competitor in 2016, and net debt now stands at roughly 3x EBITDA while EBITDA is poised to decline, from an estimated $42 million this year to $37 million by 2020. There's also been a concerning rise in accounts receivable, which we attribute to increased financial stress among the client base.

We expect earnings in 2020 to come in at $1.67 per share, on which we apply an 11x multiple to yield a price target of around $18.40. Our philosophy is that if the stock price is still well above our price target and our thesis is playing out as expected, we should short more on declines to bring the position size back to its original weight. That's exactly what we've been doing here.

Turning to a favorite long idea, describe your investment case for food distributor US Foods [USFD].

CB: I mentioned earlier our liking route-based delivery companies with local scale, and this is another one. The company is the second-largest food distributor in the U.S., servicing 250,000 customer locations – think restaurants, hospitals, nursing homes and universities – through 70 distribution facilities. Its 8% U.S. market share is behind only Sysco's 15%, and the top three competitors control just 30% of the market.

Our basic premise is that this is a predictable, growing company that is well positioned to increase market share in a fragmented industry. This is very much a scale business, making the larger operators more profitable and able to grow

INVESTMENT SNAPSHOT

Computer Programs & Systems
(Nasdaq: CPSI)

Business: U.S. provider of healthcare information technology systems and services primarily to community hospitals, physician clinics and post-acute healthcare facilities.

Share Information (8/30/18):

Price	**27.40**
52-Week Range	25.15 – 34.65
Dividend Yield	1.4%
Market Cap	$372.7 million

Financials (TTM):

Revenue	$284.0 million
Operating Profit Margin	8.9%
Net Profit Margin	(-5.3%)

Valuation Metrics
(@8/30/18):

	CPSI	S&P 500
P/E (TTM)	n/a	24.1
Forward P/E (Est.)	11.9	17.7

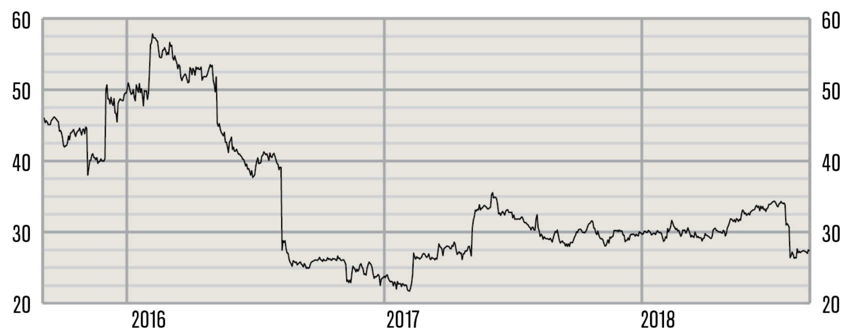
Largest Institutional Owners
(@6/30/18 or latest filing):

Company	% Owned
BlackRock	11.2%
Vanguard Group	8.9%
Brown Brothers Harriman	8.3%
Stadium Capital	4.6%
Burgundy Asset Mgmt	4.6%

Short Interest (as of 8/15/18):

Shares Short/Float	18.0%

CPSI PRICE HISTORY



THE BOTTOM LINE

Having underinvested in next-generation products, the company's "inferior and outdated offering" faces significant competition in its evolving and somewhat stressed end markets, says Bimal Shah. Applying the 11x multiple he considers appropriate to his 2020 EPS estimate, he believes the stock's fair value is roughly 33% below the current price.

Sources: Company reports, other publicly available information both organically and through acquisitions of less-efficient competitors.

To give you a sense of the sources of competitive advantage, US Foods is the leader in servicing independent restaurants, the fastest growing and most profitable segment of the market. It offers meaningfully differentiated services in three key areas. First are broader menu-item choices, including semi-prepared dishes or foods such as pre-cut vegetables that don't spoil. Second, it offers more value-added services such as menu planning and financial and staffing systems. Third, it's ahead of the game in offering digital platforms that speed the ordering and delivery process. Combined with the cost advantages of scale, that all puts US Foods in a strong competitive position.

What's your take on the company's just-announced acquisition of five businesses from Services Group of America for $1.8 billion. The market certainly didn't give it a vote of confidence.

CB: We generally prefer organic growth or smaller acquisitions, but we see the strategic rationale for the deal and the increased presence it gives the company in the Pacific Northwest. The purchase price looks expensive at 15x EBITDA, but if they can realize the synergies and tax benefits they expect, the multiple would likely turn out to be less than 9x EBITDA. We don't have that strong a view one way or the other on the deal right now – but we'll be watching the integration milestones carefully.

What upside do you see in the shares from today's $32.25 price?

CB: We believe the company can close the more than 100-basis-point EBITDA-margin deficit it has vs. Sysco, which management says will come over time from continuing to grow and taking advantage of scale efficiencies while also cutting costs in procurement, the supply chain and overhead. If that happens, we expect 4-6% annual revenue growth in independent-restaurant volume to translate into 8-10% annual EBITDA growth and into mid-teens annual earnings-per-share growth. If we apply to our $2.65 2020 EPS estimate an 18x multiple – justified by the quality, stability and growth runway of the business – we arrive at a fair value of close to $48 per share.

To get a sense of your sell discipline on longs and cover discipline on shorts, describe a position on each side you've recently closed out and why.

CB: We've done a lot of work around the delivery of broadband to households in the U.S. and became excited about the prospects for satellite broadband offered by companies like ViaSat [VSAT] and EchoStar [SATS]. As the speed and capacity of the services they offer improves, we generally expect their heavy capital investments to start paying off as customer demand in less densely populated areas increases significantly.

One big difference between the two companies is that ViaSat is at a point in its investment cycle in third-generation satellites where it's burning a lot of free cash, which is an issue because they're having some technical problems with a recently launched satellite that have caused sub-

INVESTMENT SNAPSHOT

US Foods
(NYSE: USFD)

Business: Second-largest foodservice distributor in the U.S., serving some 250,000 restaurants and institutional foodservice providers through 70 distribution centers.

Share Information (8/30/18):

Price	**32.23**
52-Week Range	25.43 – 40.92
Dividend Yield	0.0%
Market Cap	$6.99 billion

Financials (TTM):

Revenue	$24.18 billion
Operating Profit Margin	2.8%
Net Profit Margin	2.2%

Valuation Metrics
(@8/30/18):

	USFD	S&P 500
P/E (TTM)	13.1	24.1
Forward P/E (Est.)	13.9	17.7

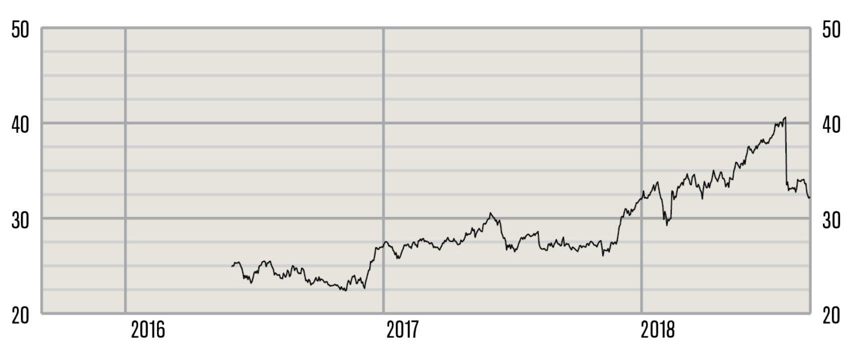
Largest Institutional Owners
(@6/30/18 or latest filing):

Company	% Owned
Fidelity Mgmt & Research	8.8%
Vanguard Group	8.4%
Wellington Mgmt	5.2%
Eminence Capital	4.0%
BlackRock	3.2%

Short Interest (as of 8/15/18):

Shares Short/Float	4.8%

USFD PRICE HISTORY



THE BOTTOM LINE

Connor Browne doesn't believe the market fully appreciates how well the company can translate its competitive advantages to profitable growth in its still-fragmented market. At the 18x multiple he would consider justified by the quality, stability and growth runway of the business, on his 2020 earnings estimate the shares would trade at around $48.

Sources: Company reports, other publicly available information scriber additions to fall short of expectations. We don't ultimately know how big a deal this will be, but the downside risk around funding capex for the next-generation satellites became too big in our mind relative to where the stock was trading, so we sold.

BS: On the short side, we recently covered our position in H&R Block [HRB], the tax-preparation company. We initiated the position in the second half of last year, based primarily on the expected negative impact on its business model from more people filing online in what is already a no-growth overall market for filing tax returns. Online filing not only is less profitable for companies like H&R Block, but we also think its online offerings aren't particularly competitive with those of Intuit, which is gaining market share.

In June the company said it planned to close about 400 U.S. offices and the CEO in an analyst call announcing it said that, "We aren't as relevant as we need to be to today's consumer." This paid off sooner than we expected – the stock fell more than 20% over the following two weeks and we covered.

You've distinguished yourself performance-wise from your long/short peers, but many hedge funds most decidedly haven't, even after correcting for market exposure. Why do you think that is?

CB: It's true that the average investor experience with long/short equity strategies hasn't been good for a number of years. You can read any number of academic papers as to why, many of which contradict each other. To me, the biggest thing has been that any portfolio that looks different than the techiest, FAANGiest U.S. companies in the S&P 500 has had a very hard time keeping up. That headwind has been compounded for value-focused investors, who have a particularly hard time in a popularity- and momentum-driven market like we've had.

I'm obviously biased, but I don't believe the time has passed for active managers who care about the fundamentals of businesses. The tide will turn, maybe in a faster and more aggressive way than people contemplate. To be honest, though, I've thought that for a few years.

For us, it all gets back to the reason-for-being concept I talked about earlier. To succeed, we as money managers have to offer a differentiated product that sustainably fills a real customer need. That's exactly what Thornburg's goal is with all of our products – if we do it well, we'll be successful. VII

Thornburg Long/Short Equity Fund
Average Annual Total Returns (as of 12/31/18)

	YTD	1-YR	3-YR	5-YR	10-YR	SINCE INCEPTION
I Shares (Predecessor Fund Incep: 2/1/08)	-6.39%	-6.39%	3.52%	3.65%	9.90%	6.09%
S&P 500 Index	-4.38%	-4.38%	9.26%	8.49%	13.12%	7.92%
Morningstar Long-Short Equity Category Average	-6.72%	-6.72%	1.78%	1.17%	3.32%	1.54%

Periods less than one year are not annualized.

Prior to inception of this share class, performance is hypothetical and was calculated from actual returns of the class A shares adjusted for the expenses of the newer share class.

Performance data shown represents past performance and is no guarantee of future results. Investment return and principal value will fluctuate so shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than quoted. For performance current to the most recent month end, visit thornburg.com or call 877-215-1330. There is no sales charge for class I shares. The total annual fund operating expenses are 2.82%.

Performance prior to 12/30/2016 is from the predecessor fund, which was managed in a materially equivalent manner to Thornburg Long/Short Equity Fund. The predecessor fund was not a registered mutual fund and was not subject to the same investment restrictions as the Long/Short Equity Fund. If the predecessor fund had been registered under the 1940 Act, the performance may have been different.

IMPORTANT INFORMATION

Unless otherwise noted, the source of all data, charts, tables and graphs is Thornburg Investment Management, Inc., as of 12/31/18.

Data prior to 12/30/16 is from the predecessor fund.

Class I shares may not be available to all investors. Minimum investments for the I share class may be higher than those for other classes.

Investments carry risks, including possible loss of principal. Additional risks may be associated with investments outside the United States, especially in emerging markets, including currency fluctuations, illiquidity, volatility, and political and economic risks. Investments in small- and mid-capitalization companies may increase the risk of greater price fluctuations. A short position will lose value as the security's price increases. Theoretically, the loss on a short sale can be unlimited. Investments in derivatives are subject to the risks associated with the securities or other assets underlying the pool of securities, including illiquidity and difficulty in valuation. Non-diversified funds can be more volatile than diversified funds. Investments in the Fund are not FDIC insured, nor are they bank deposits or guaranteed by a bank or any other entity.

The views expressed are subject to change and do not necessarily reflect the views of Thornburg Investment Management, Inc. This information should not be relied upon as a recommendation or investment advice and is not intended to predict the performance of any investment or market.

There is no guarantee that the Fund will meet its investment objectives.

Any securities, sectors, or countries mentioned are for illustration purposes only. Holdings are subject to change. Under no circumstances does the information contained within represent a recommendation to buy or sell any security.

As of 12/31/18, the top 10 long equity positions of the fund were: Gilead Sciences, Inc., 5.4%; US Foods Holding Corp., 5.1%; Thermo Fisher Scientific, Inc., 5.0%; Comcast Corp., 4.8%; Assured Guaranty Ltd., 4.4%; Alphabet, Inc., 4.3%; Nomad Foods Ltd., 4.2%; Alkermes plc, 3.8%; Zillow Group, Inc., 3.8%; Medtronic plc, 3.7%.

The Fund may invest in shares of companies through initial public offerings (IPOs). IPOs have the potential to produce substantial gains and there is no assurance that the Fund will have continued access to profitable IPOs. As Fund assets grow, the impact of IPO investments on performance may decline.

Morningstar Long/Short Equity Category – Long/short portfolios hold sizeable stakes in both long and short positions in equities, exchange traded funds, and related derivatives. At least 75% of the assets are in equity securities or derivatives, and funds in the category will typically have beta values to relevant benchmarks of between 0.3 and 0.8 over a three-year period.

Alpha – A measure of the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive alpha figure indicates the portfolio performed better than its beta would predict. In contrast, a negative alpha indicates under-performance, given the expectations established by the beta.

Basis Point (bp) – A unit equal to 1/100th of 1%. 1% = 100 basis points (bps).

CapEx – Capital expenditures are funds used by a company to acquire or upgrade physical assets such as property, industrial buildings, or equipment.

Earnings per Share (EPS) – The total earnings divided by the number of shares outstanding.

Enterprise Value (EV) – A measure of a company's total value, including market capitalization, total debt, minority interest, and preferred shares, minus cash and cash equivalents.

EBITDA – Earnings Before Interest, Taxes, Depreciation and Amortization. An approximate measure of a company's operating cash flow based on data from the company's income statement.

The S&P 500 Index is an unmanaged broad measure of the U.S. stock market.

The performance of any index is not indicative of the performance of any particular investment. Unless otherwise noted, index returns reflect the reinvestment of income dividends and capital gains, if any, but do not reflect fees, brokerage commissions or other expenses of investing. Investors may not make direct investments into any index..

Before investing, carefully consider the Fund's investment goals, risks, charges, and expenses. For a prospectus or summary prospectus containing this and other information, contact your financial advisor or visit thornburg.com. Read them carefully before investing.