COMMONWEALTH LIQUID ALPHA FUND

Commonwealth
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3Q17 PERFORMANCE REVIEW

Commonwealth Liquid Alpha Fund ("Liquid Alpha") returned 1.24% in 3Q17 and -0.55% YTD through September 30, net of all fees. Liquid Alpha outperformed the benchmark SG CTA Index in each of the last three quarters and since inception. Tactical and relative value trading in commodity markets, particularly agricultural commodities, was the primary driver of gains for the quarter, along with tactical trading in global equity indices. These gains were partially offset by losses in fixed income and currency positions. Aside from standard portfolio rebalancing, we made no substantive changes to the portfolio in 3Q though, as discussed in prior letters, we anticipate adding an additional manager to the portfolio before year-end, which would bring total manager count to six.

PERFORMANCE TABLE

	1Q 2017	2Q 2017	3Q 2017	Trailing 12 Months	YTD 2017	Since Inception	Sharpe Ratio (ITD)
Liquid Alpha	1.43%	-3.22%	1.24%	-2.54%	-0.55%	-1.55%	-0.14
SG CTA Index	0.07%	-3.52%	0.75%	-6.49%	-2.67%	-5.15%	-0.35
S&P 500	6.06%	3.09%	4.13%	16.39%	12.72%	24.35%	1.72
Barclays Aggregate	0.82%	1.45%	0.85%	-0.60%	2.38%	5.08%	0.99
50 / 30 / 20 Stock / Bond / Alts	3.24%	1.01%	2.50%	7.17%	6.76%	13.05%	1.82

Performance is shown net of all fees and expenses. Benchmark indices are not investable.

Performance in 3Q was roughly in line with long-term statistical expectation for the strategy: over a market cycle, we expect to be able to generate "equity-like" returns (high single-digits) with volatility about a half to two-thirds that of the equity market. Portfolio volatility remains suppressed due to historically low market volatility. Given that such market conditions tend to be a headwind for the strategies in which Liquid Alpha invests, we are comfortable running below-target volatility during this historically abnormal period, and will reevaluate once market volatility normalizes. We suspect that as equity market volatility returns to its historically typical mid-teens levels, our portfolio volatility will naturally tick back up to our 8-10% target range (from closer to 6% currently) and this "problem" will take care of itself.

From a relative standpoint, the fund outperformed the benchmark SG CTA Index by about 1.5% in September, 0.5% in 3Q, over 2% year-to-date, and 4% over the trailing 12 months. While the current peak-to-trough drawdown for the benchmark is around 14%, Liquid Alpha is a little over 5% from a new equity high. The 1 year performance number is particularly significant, because Summer 2016 marks the period when we migrated the portfolio from legacy mutual

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fund investments entirely to private fund strategies. The strategic shift from retail products to a set of differentiated, hard-to-access private managers at reduced fees has resulted in sustained relative outperformance ever since. This underscores the value of our focus on structural alpha through (1) cost effective bespoke fee structures, (2) focus on differentiated niche managers, and (3) broad diversification (including many smaller markets inaccessible to large, late life cycle managers). The latter advantage was clearly evident in 3Q, as much of our outperformance came from small markets like coffee, sugar, cocoa, and livestock.

That said, it's difficult for us to not feel some frustration with life-to-date performance. The fund has outperformed the benchmark, as well as most large institutional managed futures funds. Moreover, it's "done its job" by generating returns that are uncorrelated to stocks and bonds, and proven highly diversifying during the few market stress periods we've experienced since the beginning of last year. That said, Liquid Alpha is still an absolute return vehicle, and priority one is to make money. Despite marginally negative performance YTD and LTD, we are long-term investors and remain confident that our mix of managers will generate strong risk-adjusted returns going forward over a full market cycle, as they have done if we look back over a 3-, 5-, or 10-year time horizon.

FEAR OF A BLACK BOX

One the specific differentiators of Liquid Alpha relative to other alternative investments we see in the trust and private wealth arena is our focus on systematic strategies. This approach is qualitatively different in from traditional buy and hold investing. For this reason, Liquid Alpha is uniquely complementary and diversifying to traditional portfolios. This approach appeals to us for various reasons, among them: a consistent risk profile, elimination of human cognitive biases, the belief that an approach rooted in the scientific method is the best way to understand the world, and the ability to scale and diversify across hundreds of markets (more than a discretionary portfolio manager could reasonably research and cover). However the diversifying nature of quantitative strategies in a portfolio context is the primary reason we favor them. The use of these "algorithmic" investment methodologies, which are often stereotyped as non-transparent "black boxes," can be offputting to traditional value investors. For a start, we would argue that the distinction between systematic and discretionary investing is often exaggerated by practitioners and commentators on both sides of the "man versus machine" divide. We have heard our approach referred to as "rules-based" or "process-driven," and it is. But don't discretionary managers also employ rules? Surely Peter Lynch, Michael Price, and Warren Buffett follow a process? The "mental models" that Buffett's partner, Charlie Munger, famously relies upon are no different in principle from the quantitative approaches employed by the managers within Liquid Alpha. Our managers just go the extra step of formally codifying and testing those models in a scientific fashion. Does this make them inherently better or more thorough or more likely to make money? Probably not, but it does make them different, and therefore a candidate for inclusion in a truly diversified portfolio that seeks maximize returns, come what may, across all potential market environments.

One of the largest quantitative investment firms, AQR Capital Management, recently published a useful white paper in which they explore this very topic, and we believe their findings warrant discussion here.[1] In summary, they dispel some of the myths and misconceptions surrounding systematic or quantitative ("quant") trading, and then go on to make two critical points, supported by empirical data. The first and most common of these misconceptions refers to the "black box" referenced above, or the idea that quant strategies are, by definition, complex, difficult to understand, and have no grounding in fundamentals. The authors make the point that this is simply untrue. Sure, there are quant strategies that are incomprehensible, just as there are fundamental discretionary strategies that seem to defy logical explanation. Why, for instance, after decades of denigrating the industry as a terrible investment, did Warren Buffett decide to take massive positions in all the major US airlines? For every manager in our portfolio, we can sit down with investors and specifically identify the inputs to the manager's process and the resulting investment

[1] *AQR Capital Management (2017), "Alternative Thinking: Systematic versus Discretionary"*

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holdings. Contrary to common perception, we think we can make this quant process more transparent than can the average discretionary manager.The paper also addresses the "man versus machine" issue, the perception that quant strategies involve no human judgment, are overly reliant on numbers, and resemble some investing version of HAL, the supercomputer from 2001: A Space Odyssey or Skynet from the Terminator movies: a self-aware, unconstrained, technological terror, on the verge of a catastrophic breakdown that result in massive losses. However, aside from certain machine learning techniques (which as a rule we do not employ), AQR points out that at the genesis of every quant strategy is a human researcher. And human judgment is used to design, revise, and implement quant strategies. A systematic trading strategy is just a set of tools for building and managing a portfolio, and operates independent of human intervention and oversight only in the same way that the iPhone operates independent of an Apple engineer, or the Boeing 737 operates independent of an aircraft designer. Yet we all seem comfortable using our smart phones and flying on airliners.

We find that investors' biggest hurdle to accepting the suitability of systematic strategies is often the lack of a "story." As humans, we all love logical, dramatic narratives. The tale of a daring hero founder/CEO taking over the world (TSLA) or a ubiquitous product with a legal monopoly (GOOGL) is more viscerally relatable and "sexy" than the story of multiple investment factors being captured by a set of dozens of boring rules. The lack of an "elevator pitch" on a single company can often be a headwind. While a process may be less exciting than a story, AQR points out that "boring can be virtuous."

Another assumption we see made (more often in the financial press than by our clients) is that all systematic approaches are the same. This thinking is wrong because it conflates the means (a systematic approach) with the end (a portfolio resulting from that approach). While it's true that certain sub-categories of quant strategies can be subject to crowding[2], generally speaking, "not all quantitative managers are the same [and] there is as much heterogeneity among quantitative managers as there is among fundamental managers."[3]

The AQR authors then go on to make two important points: first, as we mentioned previously, discretionary and systematic approaches have more in common than many realize. Again, it's important to distinguish the means from the end: each approach is a different means to the same end result. Any discretionary rule or approach employed by a fundamental value investor can be expressed using a systematic technique. For example, the classic Graham and Dodd approach of value and "margin of safety" can be expressed using a quant model that identifies companies trading at low Price/Earnings or Price/Book multiples, or companies that generate stable and predictable earnings.

However, the paper's second key point is that because systematic and discretionary approaches are qualitatively different in their precise methodology, they yield different results when they approach the same problem (e.g. investing in cheap, high quality stocks). True in principle, the authors then demonstrate this empirically, showing that excess returns from discretionary and systematic strategies are not correlated to one another.

In addition, this "evidence suggests that the two approaches yield similar performance, with somewhat lower risk in systematic strategies."[4] Comparable returns with low correlation: these are the hallmarks of complementary assets that can form the building blocks of a diversified portfolio. AQR's analysis shows that the discretionary versus systematic (or "fundamental versus quant") debate is far from an either/or proposition. Investors should acknowledge that "both approaches have their merit and can be valuable in the context of an investor's overall portfolio."[5]

[2] *Primarily these would be market-neutral strategies that employ significant leverage. Certain types of strategies in this area experienced a large simultaneous drawdown in August 2007, which was much publicized and is often used as evidence for the dangers of quant investing. While we think these criticisms are largely unfair, we do not invest in these types of highly-levered strategies within Liquid Alpha.*

[3] *Lakonishok, Josef and B. Swaminathan (2010), "Quantitative vs. Fundamental," Canadian Investment Review.*

[f] *AQR Capital Management (2017), "Alternative Thinking: Systematic versus Discretionary"*

[5] *Ibid.*