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ASSET MANAGEMENT

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O'Shaughnessy Quarterly Investor Letter Q1 2019

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Dear Investor,

While there have been some lone geniuses in investing, able to single-handedly choose investments which lead to extraordinary returns, they are few and far between. Real investing edge should instead be cultivated at the organizational level. Properly built, an edge should be very difficult or impossible for others to replicate.

Ideally, the edge naturally increases over time—something venture capital investor Keith Rabois calls an "accumulating advantage." This raises an interesting question that I've begun to ask *other* managers: what important aspect of your firm or investment process would be most difficult to copy?

We try to encapsulate this general idea of building edge in our mantra "learn, build, share, repeat," but specific examples are more powerful.

In this letter I discuss two examples of how we are trying to build accumulating advantages at OSAM. First, by adding to our "**research graveyard**," and second by building a web of interconnected software-based **tools**. These are by no means proprietary. My hope is that other firms apply them, too. As always, ideas are easy and execution is hard. Our research graveyard and suite of tools are the result of 32 years of research and 12 years of building at OSAM specifically, with plenty of dead ends and failures along the way.

The Research Graveyard

Last year we spent considerable time building a dataset of stock ownership through history. We wanted to know what individuals or institutions owned every stock (and in what portions) on every date through time. We thought that certain type of ownership profiles—say, companies whose founding CEOs owned large stakes and still operated the company—might lead to better returns. We thought that other profiles—say large retail ownership—might lead to worse returns. This data set was a serious challenge to assemble. We devoted a large chunk of our research horsepower to the project, and in the end, we found nothing worth putting into our production model.

One of the best ways to evaluate a manager is to ask them about their research graveyard. Of the research projects we've pursued over the decades, a significant majority end up like the ownership data project—dead. The quantitative research process is default frustrating.

Every good manager will have a large collection of failed studies, each of which takes a lot of time. You have to gather, scrub, and normalize the data (often from many different sources), build signals or factors, and test for predictive power in a variety of ways, both standalone and integrated with factors already in production. It is often shocking—even with the benefit of long experience running these kinds of tests—how much more work each study ends up being than we originally expected.

The best way to avoid errors in the future is to have made most of the major types of errors in the past. Said differently, the only way to get good at research is to do a lot of research.

Our graveyard, therefore, is one of our greatest assets. Having a large graveyard means that we are well situated to allocate future research attention. Usually, ideas adjacent to other ideas that we've tried and buried are best ignored. For example, we've tried and failed at making factor timing work many times (in our graveyard, it has its own mausoleum). The next research proposal for factor timing will have to be extremely unique to convince us to allocate firm resources to support it.

The headstones of dead projects are well marked. The organization itself has a memory of these projects and our lead researchers have been with us a long time. This memory prevents a lot of waste. Ideas with no real overlap with past dead ideas are more interesting to us and give us a higher probability of finding something useful.

You know when you meet another manager who has a big graveyard. They tend to be skeptical, a bit sour, and in awe of factors like momentum. Wes Gray & Jack Vogel at Alpha Architect and Cliff Asness and his team at AQR come to mind.

If I were on the other side of the table, allocating capital to quant managers, I'd focus on each manager's graveyard. The better they can discuss what doesn't work, or doesn't matter, the more confidence I'd have in the things they do care about. How intimately do they know failure? This may hint at how badly they want to improve.

For the graveyard to be truly valuable, for it to represent an accumulating advantage, it needs to be tracked and shared. Learning from failed ideas is related to our second idea: tool building.

Tool building

A good tool allows the user to do more with less.

Our co-CIO Chris Meredith often talks about the fact that his proudest accomplishment is not a research finding which improved our selection model but is instead leading the buildout of our entire research platform. The platform allows other researchers to do more and better work, faster. He leads the construction of a toolkit that provides others with leverage.

We've realized that a great strategy for OSAM is to build tools—in our case software, data sets, and combinations thereof—but then *not direct how they are used*.

My favorite tool-building story is Amazon Web Services (AWS), which began when Amazon took a set of internal capabilities (things like storage and compute) and turned them into flexible services offered to the outside world.

Across every reference to AWS in Amazon's shareholder letters since 1997, my favorite idea is that: "the most radical and transformative of inventions are often those that empower *others* to unleash *their* creativity – to pursue *their* dreams."

The first time we opened our toolkit to the outside world was for our Research Partners program. We provide our data, programming libraries, and support from our full-time team members in exchange for the research partners' time and ideas. The program has seven active members, including four PhDs, with more to come soon. The work they've done using these tools has led to some of the most interesting research insights we've had in years. Our current research agenda is directly influenced by those findings. Tools also lead to other tools (another compounding advantage). Kevin Zatloukal built us software for automating machine learning tasks. You can see and use a version of that here.

These things—software, data, research partners, our graveyard, even the podcast and our twitter activity—all link into and depend on each other, which makes each more valuable and harder to copy.

Think back to the ownership data project. Without other connected tools, that would have just been a dead idea--time wasted. But now the ownership data set has become a critical piece of another software tool we use for clients called Portfolio X-Ray. It is now also a new data set available to research partners, who may find something interesting that we did not.

Next quarter we will be announcing another larger tool to further accelerate our learning loop.

What Works (Even Though It Often Doesn't)

Given how long our list of failed projects is, it's amazing how quickly we can summarize what *has* worked after 20+ years of constant research:

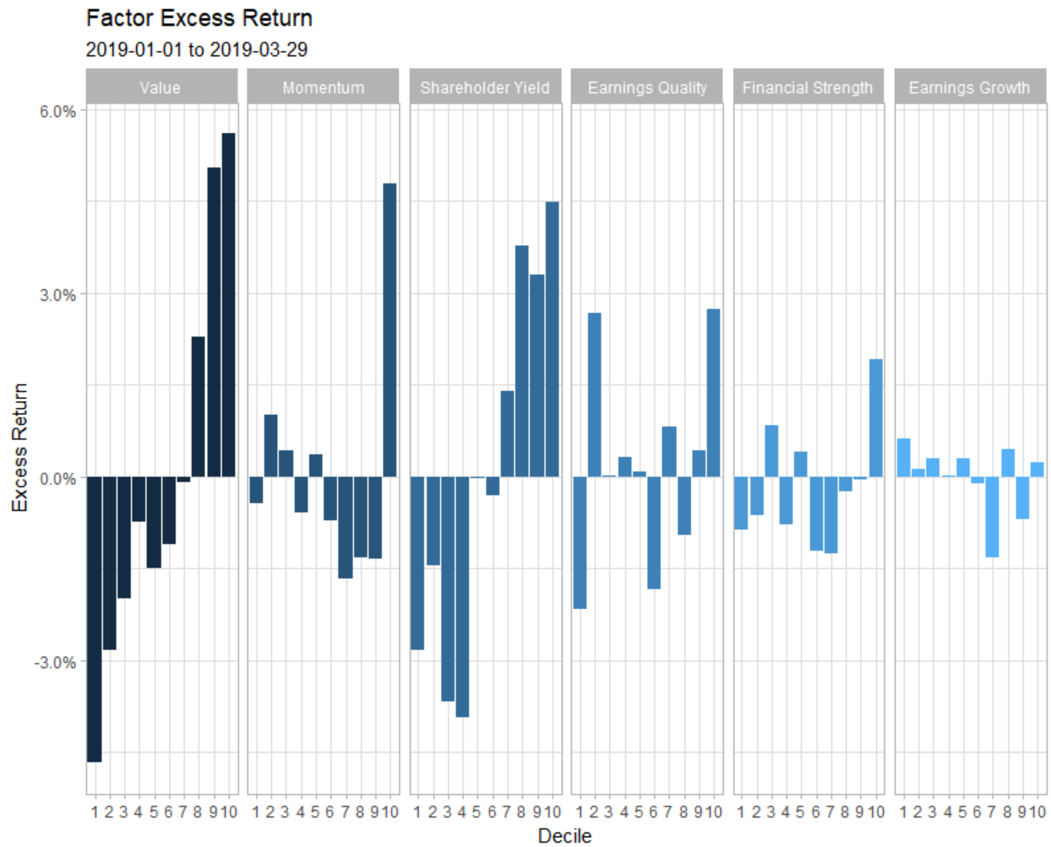
- Avoid very terrible businesses based on their balance sheets, earnings trajectory, and earnings quality. Avoid bad capital allocation and capital sourcing strategies (high and rising dependence on capital markets)
- Buy companies with cheap prices, strong momentum, and strong shareholder yields
- Ensure strong factor exposures first, then reduce sector and industry allocation risk as much as possible
- In portfolio construction, focus on factor tails—rather than digging deeper into factor mediocrity
- Weight stocks according to the consistency of the signal and overall factor profile of the stock, and place weight on more recent information
- Rebalance throughout the year to reduce market impact costs and constantly capture fresh information
- Manage all costs—including taxes, if relevant—carefully
- Maintain rules for early position exits ("red flags")
- Do no override the model.

Using this list to describe OSAM's core factor model is like describing the iPhone as a rectangular touch screen with apps. Both the first and the tenth iPhone models fit that description, but no one uses the first iPhone anymore. Quant models are similar. The basics are laid out in the list above, but every aspect should improve over time.

Earning an Edge

I wrote in my fourth quarter letter about how hard it is to live with underperformance and some of that has continued into the first quarter of this year, mostly during March.

The chart below shows the excess return of each decile of our factor themes versus large capitalization stocks in the U.S. For each graph, decile 1 is the most favorable by the factor. So, decile 1 for Value are cheap stocks while decile 10 are expensive ones. Note that in each of the six factor themes, the least favorable decile 10 outperformed the large cap universe, and in all cases but Earnings Growth, the most favorable decile. In other words, it was a uniformly bad quarter—nothing worked.



If it wasn't for our years of continually testing, questioning, and improving these concepts, they might be easy to abandon after bad short-term performance like this.

As quants, we will obviously succeed or fail with our models. Models, even those based on the same factors through time, need tending. But any quant model is the result of what is happening upstream in the business and on the research team. We like to think we have our share of geniuses (Jim O'Shaughnessy and I are surely the *least* talented researchers on the team), but also believe that edge lives in an organization, not just in people. Hopefully, the examples in this letter illustrate how we try to cultivate an advantage for our investors, and structure the business so that the advantages naturally increase over time.

In our business, we sense a blurring of lines between firms trying to grow the overall pie of investor understanding and knowledge rather than trying to find secrets and hoard them. I believe this is the foundation of an enduring asset management business in today's world. We will keep testing, building, and sharing what we find.

Thank you for reading,

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The hypothetical backtested performance does not represent the results of actual trading using client assets nor decision-making during the period and does not and is not intended to indicate the past performance or future performance of any account or investment strategy managed by OSAM. If actual accounts had been managed throughout the period, ongoing research might have resulted in changes to the strategy which might have altered returns. The performance of any account or investment strategy managed by OSAM will differ from the hypothetical backtested performance results for each factor shown herein for a number of reasons, including without limitation the following:

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- The hypothetical backtested performance results assume full investment, whereas an account managed by OSAM may have a positive cash position upon rebalance. Had the hypothetical backtested performance results included a positive cash position, the results would have been different and generally would have been lower.
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- The hypothetical performance does not reflect the reinvestment of dividends and distributions therefrom, interest, capital gains and withholding taxes.
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Composite Performance Summary

For full composite performance summaries. please follow this link: http://www.osam.com