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Quant investing

‘Simplistic factor models may get arbitraged out of existence’

- New tools that allow for customization are transforming the fund industry
- Arbitraging human behavior is the last sustainable factor
- Well-designed strategies based on conventional factors will keep working

Jim O’Shaughnessy is the Chairman and Co-Chief Investment Officer of O’Shaughnessy Asset Management (OSAM), and acclaimed author of the best-selling book *What Works on Wall Street*.

We talked with him about the major trends currently shaping the fund industry, the next generation of quantitative investment products and the future of factor strategies.

You have witnessed firsthand many of the changes that have been shaping financial markets and the investment industry over the past two to three decades. Which of these changes do you think has had the most impact?

“I think the change with the most lasting impact in financial markets is their democratization. Technology is eating markets just like it's eating everything else. And what you're seeing – at least here, in the US – with the conversion of all brokers to no-commissions trading, and apps like ‘Robin Hood’ or OSAM’s recently launched ‘Canvas’, which allows for customization, is really transformative.”

“When we’ll look back, 20 years from now, we won't be talking as much about things like central bank policy or the macroeconomic situation. What we’ll see is that the way people invest – and by people I mean everyone –radically changed. Markets have stopped being just for the elites and technology are giving average investors tools that are really remarkable.”

“Ultimately, the idea is to empower the average investor and to push down through technology the ability to do

Interview
For professional investors
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Jim O’Shaughnessy
Investor and author

Chairman and Co-Chief Investment Officer of O’Shaughnessy Asset Management (OSAM)

things that only a huge institutional investor could do 10 years ago. I find that very intriguing and I think that's where we're going to come out on the other side. We will be looking at all of the new methodologies that allow people a lot of flexibility that simply wasn't there before."

What are the implications from a product offering perspective?

"I think the implications are that you're going to see a trend away from packaged products. First, it's going to be small amounts, but then you're going to start seeing some kind of a snowball effect. I think people are going to embrace these things because, for the first time really in history, they will be able to reflect their own values in their investments."

'For the first time really in history, they will be able to reflect their own values in their investments'

"Let take the example of an index. Let's say an individual investor wants to be indexed but really has a hard time with smoking and doesn't want to hold cigarette makers. Well, now, that's a reality. Now, you could do that. I think it's going to ultimately prove to be a game changer for financial markets and that it's going to stick."

Do you mean that individuals will not necessarily have to pick one standard product anymore, that they'll be able to choose among different options just like you customize a car, for instance?

"Yes, exactly. That's in fact a really good analogy: the way that we now are able to pick a car online. Off comes the car, and then you get to pick the color, you get to pick the interior, you get to pick the options. And as you're doing that, the car you're looking at online changes, right? It changes to the color you want, to the interior you want, to the additional packages you want or don't want."

"I think we're going to see very similar things happening in portfolio creation. We work with financial advisors and that's where you'll see the changes first. But, ultimately, this is going to get pushed down to the individual investor. Financial advisors will really be able to offer specific and customized portfolios to their clients."

"Now, I'm sure that for most people that might just mean a few things, like excluding tobacco stocks for example. But some people are also going to have the ability to say, 'Well, gosh! Because I work for Google, I have a ton of stock in Alphabet. I have specific stock market risk in that one stock, what can you do for me?' And, now, we're going to have the tools to address that for the first time."

"Also, obviously, this is going to be a worldwide phenomenon and countries have different tax schemes that can require further customization. So, you're also going to be able to manage portfolios in order to add incremental alpha, as it were. I refer to this kind of alpha as 'tax alpha'. It's not insignificant and it's more 'certain' than taking a flyer on any particular stock."

"I think we're going to see a constant refinement of these tools, to the point where we'll be able to extract additional returns out of things that we simply couldn't in the past. And I think that this is going to be extremely beneficial for investors, especially as you go down the derivative – if you will – of people's desires."

"So, a small desire might be: I don't want tobacco companies any more. Easy. No problem. A much bigger desire might be: imagine you work for a listed company and you want your portfolio to reflect that fact. You've got huge individual stock risk in one particular sector. And your portfolio will be able to underweight that sector and it will certainly not buy that individual stock, for example."

"And then, 'Oh, by the way, I'm also a taxable investor. So, what can you do for me there?' And honestly, I think that this idea of customization of both active and passive strategies is going to be a big idea that is going to really take hold, because for the first time these tools actually work very well, and they are almost seamless."

"And so, if you think in terms of second-order thinking, third-order thinking, it's going to ultimately eat into packaged products. It's going to eat into one-size-fits-all products. It's going to eat into the idea that, if you want a cost-efficient solution, you've got to put up with stocks that you might not want to own."

This democratization, these tools that you're talking about, they seem to be calling for huge investments from asset managers, to be able to offer this kind of really tailored offering to individual investors, right?

"At O'Shaughnessy Asset Management (OSAM) we've already launched an app, which we consider the first investment portfolio operating system, if you will. We call it Canvas and it stems from our devotion and passion around technology and our dissatisfaction with off-the-shelf technology. So, we ended up building all of our own system."

"This software allows advisers and allocators to design, implement and maintain customized investment strategies. My son Patrick, the CEO of the company now, was like, 'Gosh! We have this incredible toolkit, but it's like building the Death Star to kill a mouse. So, why don't we rejig some of this and make it available to advisors?' And that is exactly what we did."

"Now, do I think that other asset managers will have to develop similar technologies? Absolutely. It's one of those things where when there's one, there's going to be more than one. And if you're just going to sit on your laurels and say, that is the way we do it at company X, Y or Z, you know who's going to be victim of creative destruction. That's the way the world has always worked."

"Of course there will also be a lot of wait-and-see behavior. People want to see how it works out. Also, in large companies, decision-making can take time. In the end, large and smaller players may end up in the same place – I hope they do for the benefit of their customers – but the inertia that large companies often exhibit is just going to be another thing they have to overcome."

"A great example is General Electric (GE). GE developed the transistor, but it didn't do anything with it because their biggest and most profitable division was the vacuum tube one. The invention of the first index fund is another good example. Jack Bogle, the founder of Vanguard, is often credited with the invention of index-based investing. But in fact he was not the first."

'We consistently make the same mistakes and unfortunately, there's a lot of research proving they can't be educated out of us'

"A couple of years before Jack Bogle established his first index fund, Wells Fargo had already set two S&P Composite Index funds for institutional clients. And there might have been even earlier attempts. But Jack was the first to really bring the idea to the public. And he was crucified in the press at the time. They were like, who wants to just be average? And so on, and so forth."

"This reflects a mindset that you see everywhere, not only in the financial industry. Yet to be able to thrive, you still need to keep pace with developments in your industry. And, if you have the ability to say, 'yes, OK, we'll see', that gives you a great competitive advantage. I mean, part of being in a privately-owned asset manager like OSAM is that you are able to control your destiny."

"I don't have to cut through red tape, because I'm the red tape. My son came in and said, 'Hey, you know, let's make all of these tools available. Let's offer all of these enumerated benefits.' I'm like, yeah! And so, that discussion was less than half an hour. And, now, we'll see."

So, in a way, it's like the next generation of quant, right? It started with the automation of the investment process and **now we're talking about automating the creation of** custom strategies.

"Exactly. We pride ourselves of being very open-minded. We kind of sit around and say, well, what do we want? What kind of capabilities would we want? And of course we ended up building those at OSAM. But then we thought, well gosh, if we want them, maybe there's a whole lot of other people out there who them want too. And that's what we're finding."

"I mean the launch of Canvas was only a few months ago. And the interest level is far beyond our most optimistic forecast. So, in recent years we had the Reaper come for basis points in asset management and, now, the Reaper is going to come for fees in advisory business as well, unless they can prove and demonstrate they are able to build a better mousetrap for clients."

"I study a lot of human behavior because arbitraging human behavior is the last sustaining edge. Everything we use to invest has become so advanced and, here we sit with it, like our operating system hadn't been upgraded for the last fifty thousand years. We consistently make the same mistakes and unfortunately, there's a lot of research proving they can't be educated out of us."

"So maybe one way we can harness these behavioral biases is this idea of commitment, sticking to a process. Let's say I'm designing a portfolio for you. You have a particular set of preferences and you are able to articulate those preferences. In that case, you'll be far more committed to sticking with that portfolio than you would be if you just bought an ETF, or an off-the-shelf mutual fund."

"As we understand these behavioral biases better, we're somehow reversing things and saying: we're very aware that these behavioral exists. Now, how can we turn this around and take advantage of them, as opposed to letting them take advantage of us? And the kind of smart customization I've just talked about is only one of the methods where can you do that."

Can you give us a few other examples, then?

"Well, I also study something called mimetic behavior, which essentially has to do with the fact that people learn and do by copying others. And what's interesting, if you look at all the species on the planet, is that you can see mimetic behavior everywhere: not just among lions, not just among baboons, but also among humans."

"And that has consequences for asset managers too. Imagine, you're at a dinner party and the woman sitting next to you, who you just met for the first time, is telling you about how she was able to design a portfolio that really reflected her preferences. And you're like, 'Whoa! I would like to do that too'. That's how these things catch on."

"And in an earlier world, without the Internet, it took technology forever to get adopted. Just look at the adoption of the telephone. One telephone: not useful at all. A hundred million telephones: incredibly useful. And now we have the Internet. It has a lot of bad points, but it also has a lot of good points. And one of these good points is what I call 'distributed intelligence'."

"These days, when you have a question, you can go online and find so many resources and answers. Take Twitter, for example. You can go online and ask, 'Hey, has anybody thought about this?' And, guess what? You're going to have some of the smartest people in the industry actually answer your question. Previously you would have had to go to library and struggle to find your answer."

"So, that's distributed intelligence and we're also looking at ways to quantitatively take advantage of it, which will speed up the adoption rate of the things that we're discussing here."

'Simplistic single factor models may get arbitraged out of existence. But more sophisticated models, with multiple factors, will continue to work'

We've been talking a lot about the future, but let's get back to the present. Do you think all these changes that we've been mentioning somehow make the current popular quant strategies obsolete? Is there a chance that the signals that we're using could become obsolete?

"First, I should say that the type of quantitative models we use at OSAM are not like smart beta at all. We use a combination of composite-type factors to do things like value measurements, quality measurements. Even for momentum we use a composite. We actually include a standard deviation of returns so that we're looking at shrewd momentum."

"So, back to your questions: yes, I think that simplistic single factor models may get arbitraged out of existence. But more sophisticated models, with multiple factors, will continue to work, not so much because they've achieved great performance in the past but mainly because of what they tell [us] about our behavior as investors. As I said, arbitraging human behavior is the last sustainable factor.

"Take my book *What Works on Wall Street*, which has been out for 20 years. The factor models I describe in it, yes, they have their downs, of course they do, but they also have great sustainable long-term performance. And I think that's less to do with how brilliant the factors are and much more to do with our understanding about the way human investors are going to react."

"Quite simply, humans continue to consistently react the same way. And it's usually wrong. For example, let's say that we have a strategy that is doing exceptionally well. It's human nature to be interested in that strategy. But at OSAM we try to go out of our way to tell people, 'you know, you shouldn't be chasing performance because that might lead you to awful timing."

"We tell them, 'You could be getting it near a peak, as opposed to getting it at the right time'. But even though people will intellectually answer you, 'Oh, of course no, I would never do that', when you look at actually revealed preferences – as opposed to stated preferences – you often discover some kind of timing activity. Unfortunately, it's just baked into human behavior."

"As long as we humans don't evolve rapidly, I think that well-designed rules-based investment strategies based on conventional factors will continue to work."

Still, investors would somehow need to shy away from of generic, index-based ETFs, like smart beta products, and keep faith in active management, no?

"I obviously believe passionately in active management. Every portfolio that we offer at OSAM has a very high active share, which is essentially an indicator of how different your portfolio is from the index you use as a benchmark. And so, I like to believe that for the right people, active management is going to work very well."

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"What we're seeing these days is that more and more investors use blended strategies. They may put half of their equity allocation into a broad stock market index and the remainder into a variety of strategies for which both the empirical research and the actual realized performance indicate that they are a great way to invest."

"But that's going to be right for probably a minority of the population, because passive management faces one big risk: the fact that investors often panic when things go wrong and sell off near the bottom. Meanwhile, active management faces two risks: first, the same risk I just talked about and second, the risk that the active strategy may underperform in the short term and investors may give up."

"And unfortunately that is also a really well-documented phenomenon. Investors often look at three-year returns which is probably one of the worst intervals to look at, because it accentuates the shorter-term ups and downs of a strategy. In fact, there is ample empirical research showing that performance-chasing behavior leads to poor investment results."

'Rather than trying to educate my clients against them, I look for ways to put these behavioral biases in my client's favor'

"In other words, when people fire an active manager and move to another active manager, the manager that got fired often goes on to outperform, while the new one tends to underperform. To avoid this, we build some sort of 'models', not in the traditional quantitative sense of 'models', but models of human behavior."

"But it's not like a diagram that we're going to put into a pitch book. It's more of a conversation that we have with potential clients. And we've been doing this a long time, so when we start highlighting these human foibles, if you will, and show our potential clients how pervasive they are, in human behavior. The right client is the one who says, 'You know what? That's absolutely right and I get it'."

"Now, there are other forms of active management – not quantitative – but where people follow a clear process. Back in the 1970s, a research piece was published that looked at what the best performing ones had in common. One thing they found was that the best managers, no matter what their style, had a highly specific process that they could easily articulate."

"We've known this for nearly 50 years. Just like we've known about a lot of other behavioral problems for more than 70 years. And yet, even though we know they exist, it's like Danny Kahneman says: it's cognitive mirages. It's the idea that if you and I were lost in the desert, dying of thirst, and we both saw a mirage, we would run towards it even though we knew it's a mirage."

"Danny Kahneman says this is what happens with behavioral biases. In other words, we intellectually say, yes, I understand overconfidence bias. Yes, I get that. Yes, I understand hindsight bias. Oh yeah, boy, do I ever get that. And then, we go out and fall prey to hindsight bias and overconfidence bias. So it's like intellectually understanding something but not understanding it in your gut."

"Most emotions are pretty much short term, which is why they're so powerful and why they overpower our intellect in the heat of the moment. And because human beings have yet to figure out how to effectively handle their emotions, there are so many studies that show how we emotionally make decisions and then come up with intellectualizations justify that decision."

"As an asset manager, I know I can't educate my client against these biases. So rather than trying to educate my clients against them, I look for ways to put these behavioral biases in my client's favor. And that's how you get to the idea of having them participate in the design of the portfolio and having a greater commitment to their investment strategy."

"This means that clients are more likely to stick with their portfolio and less likely to have the emotional short-term market drops affect them. And these are all cascading benefits. I mean, you could have positive compounding and negative compounding, and what we're trying to do is to harness these biases. We hope to turn negative compounders into positive compounders."

You mentioned emotions, how does sustainability fit into this? I mean, sustainability is in many ways linked to our emotions, to what we feel or believe is sustainable. There's no universal and objective definition of sustainability.

"That's a great question. You're right that people's preferences tend to be driven by emotions as opposed to factual evidence. So, what we do when we talk with clients is that we try to demonstrate, OK, if we take tobacco out, your performance is probably going to go down about this much. We have the ability to show that through a backtest, and for a lot of people that's okay."

"But back to your point regarding sustainability. I think that's sort of the next frontier for the fund industry. I fully acknowledge that some people's ideas of what's sustainable is going to be very different than other people's ideas about what's going to be sustainable. So, I want that decision to be in my client's hands, because who am I to take that authority away from them?"

"Today a growing number of investors are saying, 'I would actually like to impact the world at large and maybe my little contribution might grow into a bigger contribution'. These investors don't target pure performance, they want to align their investments with their own beliefs, which is actually a good thing."

"Here's why. Let's say you come in and I say, 'Yann, what do you want?' And you say, 'I only want a strategy that is going to give me the absolute best performance over the next 10 years. I don't really care about sustainability, you can invest in anything, I don't care'. Meanwhile, another investor comes in and says, 'No, I don't want this, I don't want this, but I do want this'."

"Then, three years later, imagine we're in a bear market. As a pure performance seeker, you will probably say, 'I'm throwing in the towel'. Meanwhile the other investor will be suffering too, but since the reasoning behind what he or she did is different, rather than saying, 'I'm going to throw in the towel', he or she will say, 'Hang on, I have got to think this out'."

"And that alone is going to make up for whatever performance you might have lost by not investing in tobacco, beverages, etc. If you are able to stay the course, that's 80 percent of the game, right there. You stay in the market and you're certainly far ahead of the person who said, give me maximum performance, but then threw the towel near the market bottom."

"Because, in my experience, that's often the single largest detriment to investors' returns. It's not so much the particular strategy that they're pursuing, it's their own behavior."

'If you are able to stay the course, that's 80 percent of the game, right there'

You mean that investors tend to time their investment flows very poorly, right?

"Exactly. That's why we need to build portfolios, where clients have a stake that translates into: you know what? No, I'm not going to throw in the towel because I believe that this reflects the way I should be investing. And I make the case that innovations, like the ability to customize or the ability to tax manage, put people into a situation where they're far more committed."

"Ultimately, I don't care what your strategy is. It doesn't matter what kind of investor you are: I don't care if you're a momentum investor, or a value investor. All that talk pales in comparison to: can you stay the course? And if the answer is no, the best strategy in the world isn't going to do you any good."

In *What Works on Wall Street*, you review a number of common factors, but low risk or low volatility, or low beta seem to be off your radar. How come?

"I am certain that there's a bunch of factors that we have yet to discover. That's why we have a strong research team and that's why we continue our research. We actually have something we call our 'research graveyard', which is quite large. Investment ideas that we looked at it but decided not to implement."

And it's very important because negative results are just as important as positive ones, right?

"Exactly. People being the way they are, they spend way too much time on the positive results and ignore the negative ones. Like Sherlock Holmes said, 'I can tell the victim knew the intruder because the dog didn't bark'. In this case, the absence of the bark is very useful just as negative research results are also very useful."

"Take for example a very intuitive strategy: I wonder if companies where the founder is still running the show and has a big equity stake do better? Intuitively, you would say yes. Well, not according to the empirical evidence. I mean, they don't do worse. But the hypothesis that founder-run companies provide a higher return going forward is not confirmed empirically."

Factor timing is another good example. Everyone is like, oh, that would be great if we could do factor timing. And we say, yeah, boy, that would be great. But then, we do the research and it's all negative and it goes into the research graveyard. So, we keep a very large research graveyard because we keep everything that we look at."

"But back to your question concerning low volatility strategies. Do they work over time? Yes, they can work very well over time. However, investors should also be aware of

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the risks they are taking with this sort of strategy. And people who think, oh, well, this is going to be great because the risk is lower and everything else is the same, are probably going to end up being disappointed."

"So, we think this idea that there is some kind of silver bullet, that allows for people to make investments with no downside. Well, you know, boy, that would be great. And if we had a strategy like that, that's the only thing we would offer. And we'd probably have nearly a trillion dollars in it, because that would be the one everyone wants. But as far as we have seen, it doesn't exist."

"It just doesn't work that way. Markets don't work that way. And you're tilting at windmills – Don Quixote style – if you think you're going to find something like that."

Just to wrap up, when do you plan to publish the next edition of *What Works on Wall Street*?

"The last edition of the book was published 10 years ago and what we're trying to decide now is how best to update the information it contains. We are currently toying with a bunch of different ways. But the problem is that we might do it and we might end up with another book. I mean, there is so much more data and research available today than 10 years ago."

"If you have the first edition of What Works on Wall Street and compare it to the fourth edition, the weight differential alone would cure you of the idea of getting information to the public in a way it can actually get through. So we're not sure yet how that's going to happen. It will happen. But we're still looking at the most efficient way to get it to the largest number of people."

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Robeco Institutional Asset Management BV, Branch in Spain is registered in Spain in the Commercial Registry of Madrid, in v.19.957, page 190, section 8, page M-351927 and in the Official Register of the National Securities Market Commission of branches of companies of services of investment of the European Economic Space, with the number 24. It has address in Street Serrano 47, Madrid and CIF W0032687F. The investment funds or SICAV mentioned in this document are regulated by the corresponding authorities of their country of origin and are registered in the Special Registry of the CNMV of Foreign Collective Investment Institutions marketed in Spain.

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Some Funds referred to in this marketing material have been registered with the UAE Securities and Commodities Authority (the Authority). Details of all Registered Funds can be found on the Authority's website. The Authority assumes no liability for the accuracy of the information set out in this material/document, nor for the failure of any persons engaged in the investment Fund in performing their duties and responsibilities.

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Robeco is subject to limited regulation in the UK by the Financial Conduct Authority. Details about the extent of our regulation by the Financial Conduct Authority are available from us on request.

Additional Information for investors with residence or seat in Uruguay

The sale of the Fund qualifies as a private placement pursuant to section 2 of Uruguayan law 18,627. The Fund must not be offered or sold to the public in Uruguay, except in circumstances which do not constitute a public offering or distribution under Uruguayan laws and regulations. The Fund is not and will not be registered with the Financial Services Superintendency of the Central Bank of Uruguay. The Fund corresponds to investment funds that are not investment funds regulated by Uruguayan law 16,774 dated September 27, 1996, as amended.

Additional Information concerning RobecoSAM Collective Investment Schemes

The RobecoSAM collective investment schemes ("RobecoSAM Funds") in scope are sub-Funds under the Undertakings for Collective Investment in Transferable Securities (UCITS) of MULTIPARTNER SICAV, managed by GAM (Luxembourg) S.A., ("Multipartner"). Multipartner SICAV is incorporated as a Société d'Investissement à Capital Variable which is governed by Luxembourg law. The custodian is State Street Bank Luxembourg S.C.A., 49, Avenue J. F. Kennedy, L-1855 Luxembourg. The prospectus, the Key Investor Information Documents (KIIDs), the articles of association, the annual and semi-annual reports of the RobecoSAM Funds, as well as the list of the purchases and sales which the RobecoSAM Fund(s) has undertaken during the financial year, may be obtained, on simple request and free of charge, via the website www.robecosam.com.

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