Systematic Investing Evolving: tactical asset allocation, algorithms, and artificial intelligence

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Systematic investing has been evolving. Over the past several decades, advances in finance theory, computing power, alternative data sources, and trading – alongside practical, real-world experience in applying quantitative methods to address investor needs – have expanded the use cases for systematic approaches within investment management. Once focused mainly on market and security forecasting methods, generally based on price and volume data, it then evolved to exploiting risk premia and financial anomalies.

Today, the transparency and efficiency of systematic investing offers investors the ability to incorporate a broad range of approaches to address their unique preferences and objectives while also carefully managing risk. However, this continuing evolution has many investors still coming to grips with systematic investing, including understanding its benefits and potential role in their portfolios. To help answer some of their questions, Kenneth Blay of the Global Thought Leadership team sat down with three experienced systematic investment managers for their perspective.

Systematic Investing Today

Everything old is new again – only better

Kenneth Blay

To begin, it would be helpful to get your perspective on what systematic investing is in practice today. Many people believe that systemic investing began with factor investing. Others, however, say it was around well before the notion of factors. Systematic investing has also changed in a lot of different ways over time. What is systematic investing today and what have you seen in terms of its evolution over the past 10 to 20 years?

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Scott Hixon
I don't believe that systematic investing evolved out of factor investing. I think it's the other way around. I think factor investing came out of systematic tactical allocation, which has been around for a long time. It's just become more refined. Part of that refinement is a loosening of the focus on asset classes to a more factor-based approach.

Thirty years ago, most systematic investors didn't think about factors. Back then, it was more about overweighting stocks versus bonds, small-cap versus large-cap, or U.S. versus non-U.S. Those things are still important, but we now also consider factors. Broadly speaking, systematic investing is just a quantitative approach to determining where to deploy capital in a portfolio.

Today, systematic investing has become more and more precise about the exposures and factors we're trying to target in a portfolio – whether that's because there's potentially more return available or better risk management. That's been the biggest change in systematic investing I've seen over my 35-year career.

Alexandar Cherkezov
Yes, that's what is really new – the intersection of systematic and factor investing. We now look at factors more dynamically and from a macro perspective.

Alessio de Longis
That's right. The bottom-up, security-level systematic approach used in factor investing has now been integrated into the top-down asset class-level approach of systematic tactical allocation.

Systematic tactical strategies always existed in the global macro space, whether as asset allocation, currency trading, or general CTA (commodity trading advisor) programs, which are multi-asset-class trend following approaches – and therefore quantitatively based.

That original form of systematic tactical investing permeated to the security level as single-security strategies, some of which are factor-based. But systematic, quantitative rules-based investing predates factors, whether implemented at the asset class or the security level.

Kenneth Blay
So, is it just the increase in the breadth of the opportunity set considered by systematic strategies that has driven investor interest in employing these approaches, or has something else changed?

Alessio de Longis
The most dramatic change I've experienced in my 20 years in this industry is that the sophisticated quantitative strategies that were once accessible only to institutional investors and a certain subset of clients are now available to a much broader base of investors. We've seen a democratization of systematic investing – quantitative, rules-based, systematic, and factor strategies are pervasive in the retail world today. This change has been driven by the advent of ETFs, index-based strategies, and other low-cost solutions.

Nowadays, even retail investors are familiar with such traditional quantitative concepts as low volatility, momentum, carry, and value. Sophistication itself has been democratized – it's more accessible now to everybody and has been made significantly more affordable.

Alexandar Cherkezov
In the last 10 years, data has also become much more available. Alternative datasets are now being explored. Computational power is getting stronger and cheaper. This gives us opportunities to add value by enhancing traditional factors. For instance, textual data from transcribed earnings calls is now being analyzed to extract sentiment and other information. The analysis can be done very quickly as compared to reading through the transcripts of the calls.

Scott Hixon
It's not only alternative datasets but the general availability of data that has changed. Thirty years ago, there was very little internet to speak of. Now, central banks around the world have all of their data – money supply, CPI, anything you want – accessible at the touch of a button. That makes all the calculations and fundamental thinking that goes into building a quantitative, systematic process substantially easier than it was 30 years ago.

Man, machine, and systematic investing

Intuition, computation, and portfolio management

Kenneth Blay
In his 1959 Portfolio Selection book, Harry Markowitz discussed how the work required to produce portfolios can be divided between man and machine. This notion is central to systematic investing, as it has been the machine that has provided tremendous scale for what is done by the human. With advances in technology, how much of systematic investing is now done by machines and what still depends on people?

Scott Hixon
Today, the computational work is delegated entirely to the machine, while the higher-level thinking required for overseeing the investment process and understanding more abstract relationships is left to the humans. The math is easy, but understanding cause and effect and more fundamental relationships is much harder. And it's not clear to me that machines have really figured that out.

Alexandar Cherkezov
It's important to have a process that doesn't just repeat the data but looks for an economic rationale. We also want

strategies that are robust across different geographies and different asset classes. Moreover, strategies need to be implementable – considering things like trading frequency, transaction costs, and time zones – and not something that only works on paper.

Alessio de Longis
Now that computation and automation have been delegated to machines and we've benefitted from speed of execution, our value add as managers is in going back to the fundamentals, back to intuition, as we evaluate and input the parameters to those quantitative rules.

There is also lot of competition in the systematic investing space, with many firms offering similar strategies. This is a function of the fact that many of the ideas that drive these types of strategies are published in peer-reviewed journals, which raises the bar on portfolio managers and researchers to innovate in more thoughtful and clever ways. I think the challenge for us is to do that.

Kenneth Blay
Speaking of intuition, it seems that having a clear and intuitive story about why you want to pursue a strategy is important for market acceptance by investors – you can't just offer black boxes. Is this a constraint on what can be done with systematic investing?

Scott Hixon
It keeps the mainstream systematic strategies from getting too complicated. A segment of the market will be into machine learning and other similar techniques. But, by and large, big institutional players and the sophisticated Registered Investment Advisors are going to be much more reluctant to accept such approaches, precisely because it's hard to explain the performance behavior.

There's also a career risk: When a strategy breaks and you can't explain why, that's kind of the worst possible outcome, particularly in working with big institutions. Your client's investment staff will have to go to their board and explain why plan-level performance was poor. And if it's, 'Well, we don't really know – it was this machine learning technique or some high-powered math,' that's just not going to play well.

Kenneth Blay
Systematic investing today includes algorithms that identify market regimes and make tactical portfolio adjustments. Years ago, some might have called this market timing – and that had a very negative stigma to it. Today, there is a much broader acceptance of these regime-based and tactical approaches by academics as well as professional investors. What has changed that has resulted in the greater acceptance of these approaches?

Alessio de Longis
If there is one term that has been taken completely out of context, it's 'market timing'. There is such a negative stigma attached to it. As such, it might be useful to reset the conversation around this idea.

We are active investors – risk takers. We need to take positions different from a benchmark. The moment you have an active weight, you are making a timing decision, period.

To clarify a bit further, the negative stigma attached to market timing generally comes from the idea of trying to time the direction of the equity market. The investment industry now understands that making directional calls on any basis – whether on interest rates or the equity market – is very difficult. So, the industry has moved more to harvesting anomalies or factors within markets while remaining market neutral.

An entire industry has created successful strategies, and it has delivered attractive returns to investors for 30 years using market-neutral equity strategies that harvest equity factor premia, market-neutral foreign exchange (FX) strategies that harvest FX carry, FX value, and so on. The asset management industry as a whole moved to delivering alpha on a market-neutral basis – and that's how the negative stigma to market timing arose. The consensus was, 'Don't bother with timing.' There's a much more solid value proposition you can deliver to investors by focusing on generating alpha within a market, rather than timing the market as a whole.

Scott Hixon
I agree, but I also think it goes back to my earliest years in the business, when the market timing decision was, 'Do I overweight equities or do I overweight bonds?'

Back then, there wasn't the focus on risk management that there is today. When you make a bet without a focus on managing risk and you get it spectacularly wrong, that contributes to the negative stigma around market timing.

Kenneth Blay
It might surprise many investors that Harry Markowitz, in his 1959 Portfolio Selection book, explains how investors might systematically address the issue of probability distributions changing through time as a function of changing market conditions. In other words, that the person who introduced us all to strategic asset allocation, which many investors assume to mean holding static allocations, recognized the need to adjust portfolio allocations as markets changed. This notion is aligned with what systematic investors have been doing all along – managing portfolios to changing market conditions and risk. Ironically, where dynamic/tactical strategies were once viewed as introducing risk to a portfolio, they are now being viewed as a tool

for managing risk. Why do you think this is? Could it be that these strategies are now more focused on risk management?

Scott Hixon
That's why I think it's much more acceptable now to be a market timer or a tactical allocator – because you're going to do it within a risk-controlled framework. If you get it wrong, it's not going to be a scenario where you had 100% in bonds when stocks were up 30%.

Alexandar Cherkezov
I would add that the data-driven and evidence-based nature of systematic investing has enhanced confidence in these approaches. So has its repeatability – the rules are documented, and you can explain them. I think the transparency of systematic approaches has also helped.

Kenneth Blay
So, transparency and a focus on risk management have driven the broader acceptance of systematic investment strategies?

All
Yes. Absolutely!

The advantages of investing systematically

Fewer behavioral biases and dynamic portfolio management through a repeatable team-based process

Kenneth Blay
We've talked about what systematic investing is, how it has evolved, and what is driving its increasing adoption. As seasoned practitioners who have worked with clients in developing, implementing, and managing these strategies, what are the key benefits to investors of systematic investing?

Alessio de Longis
First, it reduces behavioral biases. These include overreacting or underreacting to changing information and reacting imprudently to performance.

Discretionary investing, without any mediating process, is more prone to overconfidence in winners and under-confidence in losers. Systematic investing, meanwhile, imposes a transparent and quantifiable discipline on the investment process, which generally includes risk budgeting and attribution processes. It's very deliberate in terms of the links between the inputs and outputs of investment performance. The reduction of bias is a big benefit of over discretionary approaches that might be more susceptible to emotions.

To be clear, the distinction is between discretionary and systematic investing, not between fundamental and systematic investing. Fundamental investing can be done systematically.

The second benefit is an improved investor experience. Systematic strategies are more dynamic and more tactical than buy-and-hold strategies. Investors are always encouraged to focus on the long term and to stick to their risk-return preferences and objectives. The reality is that one-year performance matters – and three-year performance matters. Systematic strategies seek to provide a better investor experience through a deliberate, transparent, and dynamic investment process.

Scott Hixon
I completely agree. Return distributions have fat tails. And one way to deal with those fat tails is to be somewhat tactical. A key reason investors would want some dynamism in their portfolio is to deal with some of those fat tail events. If you just rely on a 2030 buy-and-hold strategy, fat tail events may have a significant impact on your long-term performance.

Alexandar Cherkezov
Without a doubt, systematic investing helps to mitigate the emotional implications of investing. However, I'll also point out a third key benefit of systematic approaches – which is that they are typically team-based. There is substantially less key-person risk because there is a formalized and well-defined process.

Alessio de Longis
That's a very important point. The star portfolio manager model was risky. The team-based approach embeds a whole suite of controls and involves more people in the infrastructure and maintenance of systems.

Which brings us to the biggest benefit of systematic investing: Namely, if the process is well-outlined, you can have a reasonable expectation that the process is repeatable – and that performance is repeatable. Because the rules are clear. When conducting due diligence on a discretionary strategy, even when the performance is stellar, it's very difficult to answer the question, 'Is this repeatable?'

Kenneth Blay
One of the aspects of incorporating dynamic approaches in portfolios that is often overlooked is the fact that they can allow for shifts in overall portfolio allocations that might otherwise not be possible within a reasonable timeframe. Making changes to allocations can be a time-intensive process, especially for institutional investors. From preparing documentation of proposed changes, to scheduling an investment committee meeting, to presenting and approving the change, and finally to trading and implementing the change – making a change can sometimes take days, if not, weeks. This can be a limiting aspect to portfolio management. Incorporating systematic dynamic strategies can allow for portfolios to react more quickly to changing market conditions. Would you agree?

Alessio de Longis
Completely. At the institutional level, team-based discretionary processes suffer from slow decision making in a way that systematic strategies do not.

Scott Hixon
For investment management, time is often of the essence. These strategies can offer investors an edge in that respect.

Systematic investing and you
Considerations for those looking at systematic strategies

Kenneth Blay
How should investors go about assessing systematic strategies? How should they choose one process over another?

Scott Hixon
When I'm thinking about choosing a systematic strategy, I first want to understand when does it work, when does it not work, and where are its weaknesses.

Investors need to know whether a strategy's performance matches the manager's story about how the process works. If the manager tells you, 'I am going to do X in this kind of environment,' and the performance doesn't back that up, you need to think hard about that mismatch.

What it then comes back to is the transparency of the investment process. How much transparency is there? Take that transparency, marry it with the performance results, and make sure that everything matches with what's being said.

Alexandar Cherkezov
There are also certain risks around over-fitting the data or over-prioritizing the strategy. In the due diligence process, ask questions that uncover how robust the strategy is. For example, if a parameter is 0.80, and we change it to 0.85 and the strategy collapses, that's a warning sign. So, try different parameterizations.

Also ask whether the team has data quality checks relating to accuracy and on-time availability. A smaller or less experienced team may not have the same level of data accuracy checks – but these quality controls are paramount for any data-driven strategy.

Kenneth Blay
What about trading cost considerations?

Scott Hixon
Trade execution costs have come way down. There are still pockets where things are expensive to trade, but those are small, niche asset markets. The trading function has become much more integrated with the overall management of the strategies.

Alexandar Cherkezov
Automation has really changed things. Where the manager once had to decide how much to trade, we now have systems that calculate precisely how much to trade. And it happens much faster. This also allows teams to manage multiple portfolios for many clients simultaneously. So systematic strategies are more scalable.

Kenneth Blay
How should investors think about incorporating systematic strategies into their existing portfolios?

Alessio de Longis
Assuming comparable risk-adjusted excess returns between systematic strategies and discretionary strategies, investors should look for low correlation and seek to diversify excess returns. After all, discretionary fundamental and systematic strategies follow diametrically opposed investment processes with different speeds of execution and different wavelengths in terms of investment horizons and repositioning. Ideally, introducing systematic strategies into a portfolio will be a matter of integration, not substitution.

But there are spaces where strict systematic strategies tend to perform better than discretionary strategies. These include large, liquid markets such as large-cap equities in the US and other developed markets.

We've researched the frequency and the percentage of benchmark outperformers, and the percentage of active manager success using a discretionary approach is much higher in small-caps, mid-caps, high-yield, and emerging markets – the less liquid, more idiosyncratic segments of the markets.

So, one approach to adoption of systematic investing could be to focus more due diligence on strategies in the more liquid, more efficient markets, where harvesting factors represents a larger percentage of performance and risk. In less efficient, more idiosyncratic markets, returns may be better captured by solid discretionary active management.

Scott Hixon
Remember that picking managers for tactical or active allocation is ultimately a zero-sum game. If you took all the participants and netted out their positions, you'd end up with no weight, because for every underweight there's an overweight.

Investors, therefore, have to consider the impact of over-diversification – when you over-diversify, you may lose expected alpha.

Artificial intelligence and the future of systematic investing
Human understanding, intelligent machines, and investing

Kenneth Blay
Technological advances figure large in the evolution of systematic investing. Today, the driving technology seems to be AI. How do you see AI impacting systematic investing?

Scott Hixon
I don't expect wide acceptance of AI-centered strategies by big institutional clients. There will always be a niche interest in black boxes based on machine learning, natural language processing, and so on. But the biggest application I see for AI is in indicator or factor selection, where it's already being applied to help understand what's important in the data, rather than to make the investment decision itself.

Alexandar Cherkezov
AI is forcing everybody to stay open-minded, to remain very adaptable, to learn and change quickly. It was not very long ago that Excel didn't exist. Then Excel was the tool for years. And now there are other programming languages that work with Excel. Today, we work with R and Python programming languages. You'll have to be able to change with whatever AI brings to systematic investing.

Alessio de Longis
I think the winners in the industry will be those who achieve better performance without excessive complication. Those who innovate well won't necessarily be those who add complicated math. What drives me every day when I parameterize strategies is thinking about the trade-offs. I'm always very wary of over-inflated back tests. No matter what we produce on a spreadsheet, I discount it by at least a third, if not more, in formulating return expectations.

Kenneth Blay
There's also intense interest in how AI will change the people side of the man-machine divide. What kinds of investment professionals will thrive in an AI-driven world? What skills will be most important?

Scott Hixon
The best investors will be those with a good fundamental understanding of how markets work, and who can marry that understanding with quantitative-mathematic discipline. As I said before, doing the math is the easy part. We need people who recognize that investing is not a physical science – it's a social science. And if you attack investing problems only in physical science terms, you're likely to get the wrong answer.

The hardest people to find are those who have programming experience and who also think about economics and social behavior. We'll continue to depend on investment teams who understand how people behave, and that it's not always rational.

Kenneth Blay
Thank you all for sharing your insights with us!

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