Factor-based investing may be the talk of the town at the moment, but it’s not a new idea. Benjamin Graham and David Dodd, authors of “Security Analysis,” first identified value as a persistent generator of above-market returns in the 1930s, and momentum, as a concept, already existed when Richard Driehaus began to popularize it in the 1980s. Style boxes began proliferating in the 1990s, while behavioral finance research first took shape in the late 1970s. Yet there’s no denying that what’s old is new again, as investors of all stripes look for ways to capture the cost-efficiency and transparency benefits of passive investing, while also outperforming market benchmarks.

Factors, at their simplest, are traits that explain returns on a cross-section of assets. “We describe factors as broad and consistently rewarded characteristics that generate returns in many different places, across different asset classes and forms of equity,” says Andrew Ang, head of factor investing at BlackRock. “These include macro factors like inflation and economic growth. They also include style factors, such as value and momentum. We’ve seen factors work in equities, bonds, commodities, foreign exchange, almost anywhere there is a liquid market.”

Larry Swedroe, director of research at Buckingham Strategic Alliance, and the author, with Andrew Berkin, of “Your Complete Guide to Factor-Based Investing: The Way Smart Money Invests Today,” employs a slightly different set of factors from BlackRock. His factors include beta, size, value, momentum, profitability/quality, carry, and term.

MORE OF A FACTOR THAN EVER
Swedroe ties the rise of factor investing to the mixed results of active management. Two decades ago, he explains, around 20 percent of active managers routinely beat their benchmarks. Today, only around 2 percent do. The case for passive investment has become well-known — low costs, predictable performance versus a benchmark, and transparency. “Investors are trying to figure out, if passive investing is the way to go, how do I implement it? What factors do I want to include?” he says.

Technology, too, has played a role, as advanced computer power makes it ever easier to identify, track, and construct portfolios around factor strategies. Brian Sanborn, Director of Research Applications at Ned Davis Research, says that it’s never been easier to pursue factor strategies.

“Programming is becoming much more readily used within the workplace and higher education. There’s a lot of software out there that’s open and free to use. We’re also seeing greater availability of data, whether it’s pricing, financial statements, or macro data,” Sanborn explains. “Because of the availability of data now, and the implementation of factor investing, it’s easier for firms to put together baskets of stocks that have certain characteristics, whereas before it was much more expensive to do this. Now there are lots of ETFs that have some type of factor characteristic associated with them.”

“What’s new today is not the economic concept of buying cheap, or finding high-quality names, or gravitating towards safety and income. All of those things have been well known for decades,” says Ang. “What’s new today is the application of these concepts in transparent vehicles, identifying trends and quality names across thousands of assets worldwide, and efficiently executing factor-based strategies.”

PLENTY OF RUNWAY
Swedroe has analyzed the premium that each of his five factors have generated, their volatility and their Sharpe ratios — and calculated returns for three diversified portfolios that incorporate multiple factors as well (see chart at right), demonstrating the significant advantage in return and diversification that a multi-factor approach can bring. Notice that the diversified portfolios have a higher Sharpe ratio than any single factor approach, indicating a higher return per unit of risk.
All this has proven compelling for many investors. Yet what happens if factor-based investing becomes widespread? Will too much investing arbitrage out the rewards that early adopters have been able to reap? BlackRock’s Ang says factor strategies currently make up less than 1 percent of equity assets under management. “There’s still a very large runway,” he says.

Here’s another way of looking at it: Assets in factor strategies are dwarfed by the assets in traditional vehicles, such as passive and active funds. For example, the S&P 500 Index represented $19.2 trillion in market value at the end of 2016. Of the $8.7 trillion in assets indexed or benchmarked to the S&P 500, actively managed mutual funds accounted for $5.7 trillion. By comparison, U.S.-listed, U.S. equity smart beta ETFs represented about $224 billion – or less than 1.2 percent of the market capitalization of the S&P 500.

Unlike some strategies prone to capacity constraints, factor funds may be more able to invest new fund flows without unduly affecting the prices of securities, giving them the potential to accommodate large flows.

Even with wider application, Ang believes that factors’ effects would persist. “These factors have existed for decades and in some cases, hundreds of years, and we think that they will continue to persist because they arise from fundamental economic rationales. They are a combination of a reward for bearing risks, overcoming a structural impediment, or exploiting behavioral biases,” says Ang.

Swedroe has studied returns on factor strategies after they are published and found that, on average, premiums decay by about one-third as hedge funds and other active managers trade to exploit published research. “For example, say value stocks have outperformed, and we first discover that when a research paper gets published,” explains Swedroe. “The hedge funds come in and drive up the stock prices of the value companies, correcting the undervaluation. Now the historical value premium is bigger, but it also means that the future premium is now lower, so it can shrink. But it should never disappear, as long as there’s a risk story.”

**FACTOR RETURN AND RISK (%)**: 1927 – 2016

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean Return</th>
<th>Standard Deviation</th>
<th>Sharpe Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta</td>
<td>8.4</td>
<td>20.5</td>
<td>0.41</td>
</tr>
<tr>
<td>Size</td>
<td>3.4</td>
<td>13.8</td>
<td>0.24</td>
</tr>
<tr>
<td>Value</td>
<td>5.0</td>
<td>14.2</td>
<td>0.36</td>
</tr>
<tr>
<td>Momentum</td>
<td>9.3</td>
<td>15.9</td>
<td>0.58</td>
</tr>
<tr>
<td>Profitability*</td>
<td>3.0</td>
<td>9.6</td>
<td>0.31</td>
</tr>
<tr>
<td>Quality**</td>
<td>4.1</td>
<td>9.9</td>
<td>0.41</td>
</tr>
</tbody>
</table>

P1 is allocated 25 percent to the four factors of beta, size, value and momentum. P2 is allocated 20 percent to each of the same four factors and adding an allocation to the profitability factor. P3 is allocated the same way, substituting the quality factor for the profitability factor.

Data supplied by Fama/French Data Library and AQR Capital Management. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio nor do indices represent results of actual trading. Information from sources deemed reliable, but its accuracy cannot be guaranteed. Performance is historical and does not guarantee future results.

**NAVIGATING A DIFFICULT ENVIRONMENT**

Factor-based strategies should, almost by definition, work in a variety of market environments and over long periods of time, but they all experience periods of underperformance. Swedroe has analyzed performance for each of his factors over periods from 1 to 20 years, and found that “no matter how long the horizon, each of the individual factors experience some periods of underperformance, even at horizons of 20 years. The sole exception is momentum at 20 years. However, this doesn’t guarantee future success for momentum at 20-year horizons,” he says. “But showing the benefits of diversification, no matter the horizon, the odds of underperformance are lower for each of the diversified, multi-factor portfolios than for any of the individual factors.” – Jennifer Kelly
Factor-based investing leverages insights about the broad, persistent forces that drive investment returns to help investors enhance performance, manage risk, and seek genuine diversification. It’s becoming increasingly popular. A 2016 survey from BlackRock found that 87 percent of institutional investors used factors as part of their investment process, and that nearly two-thirds increased their use of factors over the previous three years.

To find out where factor investing fits into the current landscape, how it works for clients and how it can add value, we talked to BlackRock’s Andrew Ang, head of factor investing, and Sara Shores, head of factor-based investment strategy.

Why is factor investing such a relevant theme for investors today?

Andrew Ang: This is a difficult environment. There are low yields, increasing interest rates, geopolitical uncertainty, and anomalously low volatility. Factors present a well-known, academically rigorous and efficient source of potential returns. That makes factor investing particularly attractive for investors seeking performance greater than market benchmarks or looking for additional diversification.

Using factors to help navigate these difficult investment times allows us to build more robust investment portfolios, mitigate risk on the downside, and seek the returns that investors need in the long term.

How can investors start to incorporate factors into their overall allocation?

Sara Shores: Bringing factors into asset allocation represents the quantification of investor intuition. We know that there are commonalities across asset classes. When most investors embark upon their strategic asset allocation, they think about allocating capital across stocks, bonds, and alternatives. They might divide that universe into U.S. equity, global equity, investment grade bonds, high yield bonds, private equity, and real estate. We pretend as if those labels create a distinction between the behaviors of the asset classes. But we know that there are linkages across them.

For instance, if the Fed unexpectedly increased rates tomorrow, you would see the effects ripple through the prices of equities, fixed income, real estate, and hedge funds. Factors help quantify those linkages across both public and private asset classes.

Many investors have done this in a heuristic way for a long time. For instance, they will categorize elements of their portfolio as either safe or risky assets. Now we have the tools to analyze factor exposures across asset classes. We know that there are common sources of risk. Factor analysis helps us quantify them.

Are there sources of risk that investors are overlooking?

Ang: Yes. Many portfolios aren’t as balanced as you’d think. Economic growth, for example, tends to dominate many portfolios as that factor drives the majority of risk across many widely held asset classes. See the Different assets, common risks chart.

That growth bias means that many portfolios are dominated by exposure to the economic cycle. If growth is stronger than expected, those portfolios tend to do well. If growth is weaker than expected, they tend to do less well. Plus, there are many components of our private lives — salaries, bonuses, house prices — that are also heavily linked to the economic cycle. One of the common themes we hear today is that investors want to diversify their portfolios away from economic growth into other rewarded factors.

We have developed a tool called Aladdin Factor Workbench that allows us to view asset allocation through a factor lens. It helps us think about adding more balanced sources of return that have the potential to add diversification while seeking to improve long-run results.

How is factor-based investing evolving? What are some new ideas you’re seeing gain traction?

Shores: Many investors start with a form of smart beta — the long-only, index-driven form of factor-based investing — to achieve the potential benefits of passive investing, while maintaining the possibility of outperforming the benchmark. Smart beta is about making elements already present in cap-weighted indices work harder to seek enhanced performance.

From there, investors may think about using factors to complement the active strategies in their portfolios. Say you have an active manager who tends to have a value bias. You may want to complement that manager with some exposure to quality or momentum, to build a more diversified portfolio.

In our experience, once investors become accustomed to factor investing, they’re often interested in a fuller expression of it. Instead of just looking at U.S. value, they look at value globally. They look at value not just in equities, but also in fixed income, currencies, and commodities.

Taking it one step further, if we construct a portfolio with both long and short positions, we can create a potential source of liquid absolute returns which, ideally, has no correlation to the broader stock/bond portfolio. That may provide a diversified and resilient source of returns. As hedge funds fees have come under increasing scrutiny, we’ve seen many investors use long/short factor strategies as a lower-cost replacement.

Andrew, you’ve mentioned that the fundamental ideas behind factor-based investing have been consistent, what has changed?
DIFFERENT ASSETS, COMMON RISKS: MACRO FACTOR DECOMPOSITION OF DIFFERENT ASSET CLASSES

Source: Aladdin Factor Workbench, June, 2017. Global asset classes are all hedged to USD. Risk contribution is the risk decomposition of the portfolio by factor, taking into account the correlations between the factors and the benefits of diversification, using a lookback period of 15 years. "Other" includes risk contributions from style factor exposures and idiosyncratic risks. Asset classes are represented by the following indices: Global equity, MSCI All Country World Index; Emerging equity, MSCI Emerging Markets; Global inflation-linked bonds, BofA ML Global Governments Inflation-Linked Index; U.S. Treasuries, Bloomberg Barclays Global Aggregate Corporate Index; Global high yield bonds, Bloomberg Barclays Global High Yield Index; USD EM Bonds, JP Morgan EMBI Global Diversified Index; Commodities, Bloomberg Commodity Index Total Return; Global real estate, BlackRock Proxy; Global private equity, BlackRock Proxy; Global infrastructure, BlackRock Proxy; Hedge funds — aggressive, HFRI Equity Hedge Index.

Ang: Factors have been around a long time. It’s the applications that have changed, and technology has enabled that. You can read about value and quality in Graham and Dodd’s “Security Analysis,” from 1934. But today, we can analyze thousands of investments, across multiple assets, to identify value, quality and other factors, and we can trade those securities efficiently to help meet our investment objectives.

So the conversations we’re having today are not so much about what factors are or why they’re important. They’re more about how we can use them effectively in our portfolios, whether as stand-alone strategies to help enhance returns or mitigate risk, as overlays to offset factor exposures already in the portfolios, or as a diversifying, low-correlation alternative allocation. The conversation has really changed to how we can use factors to help investors in a difficult environment.