Expert panel: The concept of risk and risk management in value investing and modern portfolio theory

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Between mixed signals about inflation, signs of structural weakness in China's over-leveraged real estate sector and September's low returns on global equities, institutional investors have just been through a volatile quarter. And the fourth quarter

is likely to be filled with hidden hazards, both known unknowns and unknown unknowns.

Most portfolio managers will try to refer to, and deal with, these hazards based on what they have learned at university — namely modern portfolio theory. Value investors, however, would caution against this. Let me explain why.

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The two key tenets of modern portfolio theory are that investors should hold well-diversified portfolios and that, in this setting, the only risk that matters is beta risk — volatility-based risk. According to the theory, markets will reward investors for beta risk alone. Academics argue that anyone who tries to pick stocks only achieves a high level of diversifiable risk for which they will never be rewarded and that exposes them to large losses.

Value investors reject both tenets of modern portfolio theory. They don't believe astute investors must hold well-diversified portfolios and they reject the notion that beta is a measure of risk.

Is there a need for a well-diversified portfolio?

Academics regard diversification as a substitute for due diligence. They believe stock-by-stock analysis is a wasted effort and that diversification will save us all. Of course, if we cast our minds back to October 2008 or March 2020, experience tells us that diversification doesn't work when we most need it to.

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Even if we accept that diversification reduces risk, its downside is that it also dilutes returns and limits an investment's upside. In fact, economic theory suggests that a perfectly diversified portfolio will earn the risk-free rate in the long run. So why not just cut to the chase and invest directly in government bonds?

Beyond this, though, diversification would work if we knew and could measure all possible risks. However, we can't. There are two kinds of risks: the risks we know we don't know — those measured by the variance of returns — and the risks we don't know we don't know — those that aren't captured or measured by the variance of returns. Diversification doesn't protect us against the risks we don't know we don't know.

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In a book they wrote in 2006, the late mathematician Benoit Mandelbrot and former *Wall Street Journal* editor Richard Hudson showed the daily returns of the Dow Jones index for the period between 1916 to 2003 didn't plot out as a bell curve — the far edges flared too high. These risks are more commonly referred to "fat tails."

The first academic to discuss this was John Maynard Keynes, but his view of risk didn't prevail because it was difficult to quantify and capture in mathematical models. What prevailed was the view of mathematician Thomas Bayes: that risk is like roulette; we know all the odds even though we don't know what number will eventually arise.

Unfortunately, risk in the markets isn't like roulette. In the game, the odds are fixed and what we observe around us doesn't affect the odds. Our world is more like poker, when whatever we observe around us affects the odds. It isn't possible to develop formulae and closed-form solutions. As a result, models that are developed based on the bell curve will fail.

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Recently, even super-quant academics have come around and admitted the fallacy of developing and depending solely on formulae. Andrew Lo and Mark Mueller from the Massachusetts Institute of Technology recently penned an article titled, *Warning: Physics envy may be hazardous to your wealth*, in which they argue that "physics envy has created a false sense of mathematical precision."

What do value investors want?

Value investors want to reduce risk without limiting the upside.

How do value investors handle risk? They select securities after in-depth due diligence. They choose to invest in companies whose business they understand with a history of stable cash flows. They never buy on margin and avoid companies that are over-leveraged. They employ position limits. They have checklists of why they want to buy and what they're buying. They adhere to a disciplined process of when to buy and when to sell and they never short stocks, among other risk mitigating strategies. More importantly, value investors employ the concept of margin of safety. They only buy a stock if its price is well below its intrinsic (fundamental) value.

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To be clear, value investors don't totally reject diversification. If they did, they would hold only one stock. They tend to hold concentrated portfolios of between 15 and 30 stocks. They believe that some diversification, along with the margin of safety, go a long way in dealing with the risks discussed above.

In 2009, Nassim Taleb, Daniel Goldstein and Mark Spitznagel co-authored a *Harvard Business Review* article on the six mistakes executives make in risk management. Two of the problems they identified were studying the past and putting faith on the variance of stock returns. They end the article by stating that risk managers place a greater emphasis on making money than on avoiding losses.

Avoiding losses is key for value investing. Value investors would rather minimize risk than maximize returns. This is the role that the margin of safety plays.

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Is beta a risk measure?

Value investors reject the notion that beta is a measure of risk. Risk for value investors isn't volatility. Volatility is good. Risk is the possibility of permanent loss of capital. We have permanent loss of capital, for example, when investing in an over-leveraged company that will go bankrupt in a recession or when investing on margin and forced to sell even though this may be undesirable.

Value investors aren't alone in taking this position. Even the academic most responsible for popularizing beta, Eugene Fama from the University of Chicago, dismissed it as as "garbage" in a 2016 paper he co-authored with Joel Stern.

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Will value investors' view of risk change the views of risk at universities? Of course not. Academics are too invested in the status quo to have a few value investors or even a few aging academics argue against modern portfolio theory. But next time you hear that we must diversify and that beta is a measure of risk, ask why billionaire investors like Warren Buffett, Charlie Munger and Seth Klarman have mocked those concepts and much of what's taught in finance departments at universities around the globe.

Advice for investors

My advice to professionals, especially those who are starting out, is to never start your analysis with spreadsheets and formulae. This shows you don't understand what's happening and you're trying to hide behind the formulae.

I'm not alone on this. Buffett has also cautioned investors to "beware of geeks bearing formulas." Another value investor, Avner Mandelman, also cast doubt on the idea that understanding financial numbers requires complicated formulae, saying "the essence of business — the conflict, the personalities, the drama — cannot be encapsulated in language, let alone in math."

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Instead, start with the qualitative analysis. Demonstrate you understand the company, the business, the management, the industry and the competitive situation. Once you get the qualitative stuff right, then you start putting in the formulae and the spreadsheets — not the other way around.