BLACKROCK®

Investing in the New Era of Diversification

A Conversation with Professor Christopher C. Geczy, Ph.D.

Over the last several years, investors have experienced nearly unprecedented market turmoil and disruption. In the aftermath of the credit crisis, many discovered to their unfortunate surprise that their portfolios were not nearly as protected from downside risk as they thought and that their traditional notion of "diversification" failed their expectations.

To learn more about the dynamics of portfolio construction and to explore potential investment strategies that could enhance risk management and diversification, we recently sat down with Professor Christopher Geczy, Academic Director of the Wharton Wealth Management Initiative and an Adjunct Associate Professor of Finance at The Wharton School. Highlights include:

- Modern Portfolio Theory did not fail during the credit crisis — portfolio construction did. Many investors did not have exposure to enough different asset classes.
- Investors should consider incorporating a much wider range of strategies and assets as part of their core investment strategy.
- The notion of "alternative" investing is often misunderstood. Gaining access to different types of investments is an approach that almost everyone should employ, and many strategies are now available to a broad range of individuals.

Dr. Christopher Geczy
Academic Director of the Wharton Wealth Management Initiative & Adjunct Associate Professor of Finance at The Wharton School

Dr. Geczy regularly teaches investment management and co-created the first full course on hedge funds at The Wharton School. He also teaches a number of executive education courses and has taught AIMR/CFA-Institute-accredited professional Risk Management courses through the University of Chicago's Graduate School of Business. He has a B.A. in Economics from the University of Pennsylvania and a Ph.D. in Finance and Economics from the Graduate School of Business at the University of Chicago.

Before his studies at Chicago, Chris worked for the Board of Governors of the Federal Reserve System, Washington, D.C., in its Division of Research and Statistics. Chris is a Fellow of the Wharton Financial Institutions Center and has been the New York Stock Exchange Fellow and the Geewax-Terker Fellow at the Rodney L. White Center for Financial Research at Wharton. He has been the Academic Director of numerous Wharton Executive Education programs including the 2009 Securities Industry Institute in partnership with SIFMA, the Investment Management Consultants Association Endowments and Foundations, Alternative Investments and the advanced Investment Strategist Certificate programs.

He has served on the Economic Advisory Board of NASDAQ, has acted as an editor of the Journal of Alternative Investments and has joined the Editorial Advisory Board of the Journal of Wealth Management. Chris is also a founding board member of the Mid-Atlantic Hedge Fund Association and was its chairman from 2007 to 2008, and he has served on the curriculum and exam committee of the Chartered Alternative Investment Analyst Association (CAIA).

Dr. Geczy has been compensated by BlackRock for his time in providing the foregoing opinions. All opinions presented here are his own and are not necessarily those of BlackRock, The Wharton School, or Forefront Analytics, an entity affiliated with Dr. Geczy.

Q **Many investors thought they were adequately diversified in 2008, only to see their portfolios collapse. What happened? Did the entire concept of Modern Portfolio Theory fail?**

A It's a great question, and my answer is an emphatic "no." Modern Portfolio Theory did not fail — if anything, portfolio construction did. What really happened was that many investors did not have the right investments in their portfolios. Portfolio construction is challenging enough to begin with, and it's even harder during times of crisis, when correlations can work against investors.

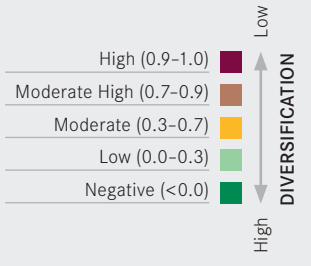
What happened to some investors during the credit crisis is really all about what I would call the "physics" of diversification, by which I mean that increases in volatility are often naturally related to increases in correlations. In other words, when markets become more volatile, asset classes that were already correlated can become more correlated. That's nothing new — data going back over centuries help make that point.

As an example, take a look at what happened to correlation measures during the two significant bear markets of the last 10 years — correlations between many individual investments and even asset classes spiked closer to 1 (with 1.0 representing a "perfect" correlation and -1.0 representing a "perfect" negative correlation). (See Chart 1.)

Portfolio construction is challenging enough to begin with, and it's even harder during times of crisis, when correlations can work against investors.

Chart 1: Correlations Climb During Times of Crisis

	LC Stocks	MC Stocks	SC Stocks	Int'l Stocks	EM Stocks	Corp. FI	Treas. FI	HY FI
The Bursting of the Technology Bubble (2000–2002)								
LC Stocks	1.00							
MC Stocks	0.89	1.00						
SC Stocks	0.80	0.93	1.00					
Int'l Stocks	0.84	0.89	0.82	1.00				
EM Stocks	0.82	0.85	0.81	0.77	1.00			
Corp. FI	-0.16	-0.11	-0.04	-0.09	0.00	1.00		
Treas. FI	-0.61	-0.56	-0.46	-0.47	-0.47	0.75	1.00	
HY FI	0.56	0.64	0.64	0.51	0.75	0.38	-0.18	1.00
The "Great Recession" (2007–2009)								
LC Stocks	1.00							
MC Stocks	0.97	1.00						
SC Stocks	0.95	0.94	1.00					
Int'l Stocks	0.91	0.93	0.83	1.00				
EM Stocks	0.79	0.87	0.72	0.94	1.00			
Corp. FI	0.53	0.56	0.44	0.70	0.64	1.00		
Treas. FI	-0.01	-0.08	0.01	0.12	-0.05	0.51	1.00	
HY FI	0.72	0.81	0.68	0.73	0.78	0.60	-0.24	1.00



Sources: BlackRock; Informa Investment Solutions. Index correlations represent past performance, and there is no guarantee that future correlations between the indexes presented will be the same. It is not possible to invest directly in an index. **Large Cap Stocks** are represented by the S&P 500 Index. **Mid Cap Stocks** are represented the S&P 400 Mid Cap Index. **Small Cap Stocks** are represented by the S&P 600 Small Cap Index. **International Stocks** are represented by the MSCI EAFE Index. **Emerging Markets Stocks** are represented by the MSCI Emerging Markets Index. **Corporate Fixed Income** is represented by the Barclays Capital Credit Index. **Treasuries** are represented by the Barclays Capital US Treasury Index. **High Yield Fixed Income** is represented by the Barclays Capital US High Yield Index. The timeframe used for "The Bursting of the Technology Bubble (2000-2002)" is September 1, 2000 through September 30, 2002. The timeframe used for "The 'Great Recession' (2007-2009)" is November 1, 2007 through February 28, 2009.

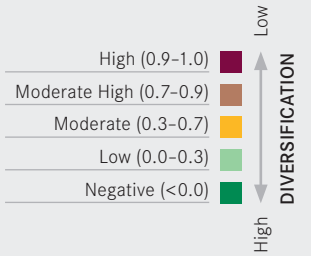
While correlations do often spike during times of stress, they can also be surprisingly high over full market cycles.

Q But these sorts of correlation issues aren't limited to times of crisis, correct?

A That's absolutely correct. While correlations do often spike during times of stress, they can also be surprisingly high over full market cycles. The chart below shows the same correlation results over the last 15 years, and while the correlations between asset classes are lower as a whole over this longer time period, they are still quite high.

Chart 2: Correlations Can Still Be High Over Market Cycles

	LC Stocks	MC Stocks	SC Stocks	Int'l Stocks	EM Stocks	Corp. FI	Treas. FI	HY FI
The Last 15 Years (1996–2010)								
LC Stocks	1.00							
MC Stocks	0.90	1.00						
SC Stocks	0.80	0.93	1.00					
Int'l Stocks	0.84	0.80	0.75	1.00				
EM Stocks	0.75	0.77	0.72	0.83	1.00			
Corp. FI	0.22	0.21	0.16	0.27	0.22	1.00		
Treas. FI	-0.20	-0.23	-0.25	-0.20	-0.25	0.67	1.00	
HY FI	0.60	0.63	0.61	0.63	0.63	0.49	-0.16	1.00



Sources: BlackRock; Informa Investment Solutions. Index correlations represent past performance, and there is no guarantee that future correlations between the indexes presented will be the same. It is not possible to invest directly in an index. **Large Cap Stocks** are represented by the S&P 500 Index. **Mid Cap Stocks** are represented the S&P 400 Mid Cap Index. **Small Cap Stocks** are represented by the S&P 600 Small Cap Index. **International Stocks** are represented by the MSCI EAFE Index. **Emerging Markets Stocks** are represented by the MSCI Emerging Markets Index. **Corporate Fixed Income** is represented by the Barclays Capital Credit Index. **Treasuries** are represented by the Barclays Capital US Treasury Index. **High Yield Fixed Income** is represented by the Barclays Capital US High Yield Index. The timeframe used for "The Bursting of the Technology Bubble (2000-2002)" is September 1, 2000 through September 30, 2002. The timeframe used for "The 'Great Recession' (2007-2009)" is November 1, 2007 through February 28, 2009.

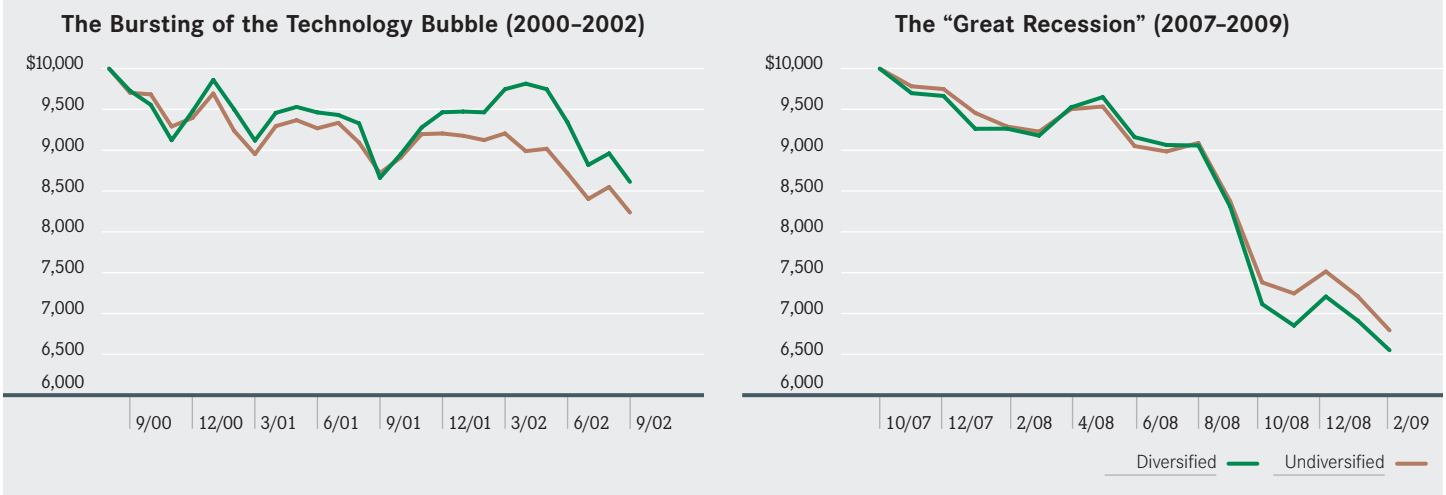
Q If Modern Portfolio Theory didn't fail, why did some portfolios perform so poorly during the crisis?

A There's an old saying in investment circles that the only things that go up in a crisis are correlations. That often rings true, especially for asset classes that already have some level of correlation. Take stocks for example. Many investors believe that merely having exposure to both US and international stocks provides sufficient diversification, but in reality, those stocks are exposed to many of the same common factors. When volatility rises, so too can the correlations between US and international stocks, which is why nearly all markets suffered significant downturns in the late 2008/early 2009 crisis.

It also goes beyond asset classes like US and international stocks and bonds. Using the same time periods we were discussing before, we can see what happened to an "undiversified" portfolio of large-cap US stocks and broad-market US bonds compared to a more "diversified" portfolio that also included a range of other stocks and bonds — there really wasn't much difference in terms of the experience of the investor. And, in fact, a so-called "diversified" portfolio fared slightly worse in the most recent downturn. (See Chart 3.)

Chart 3: Traditional Diversification Can Be Lacking When Volatility Rises

"Undiversified" vs. "Diversified" Portfolio Performance

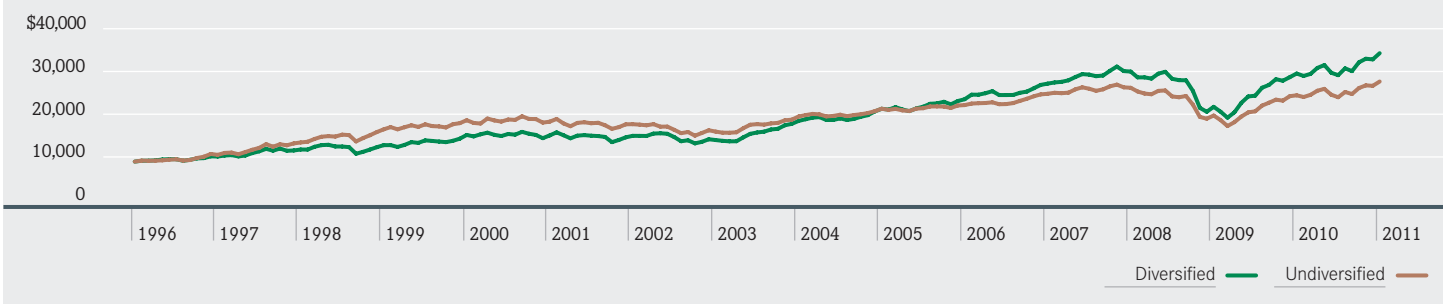


Sources: BlackRock; Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes only and is not meant to represent the performance of any particular investment. The data assumes reinvestment of all income and does not account for taxes or transaction costs. It is not possible to invest directly in an index. Undiversified 60/40 Portfolio is composed of 60% S&P 500 Index and 40% Barclays Capital Credit Index. Diversified 60/40 Portfolio is composed of 12% S&P 500 Index, 12% S&P 400 Mid Cap Index, 12% S&P 600 Small Cap Index, 12% MSCI EAFE Index, 12% MSCI Emerging Markets Index, 13.3% Barclays Capital Credit Index, 13.3% Barclays Capital US Treasury Index and 13.3% Barclays Capital US High Yield Index.

Q **Does this mean that there's really no such thing as diversification?**

A Not at all. And to be clear, I'm not saying there is no benefit to investing in different asset classes, different regions and so on. Certainly, a traditional 60% stock/40% bond portfolio would have done better during the credit crisis than a 100% stock portfolio and may better fit the risk profile of certain investors. And at the same time, over the same 15-year time period we discussed earlier, a traditionally diversified portfolio would have outperformed an undiversified portfolio, even if it didn't really provide much in the way of downside protection. (See Chart 4.)

Chart 4: Growth of $10,000 Over the Last 15 Years (1996–2010)



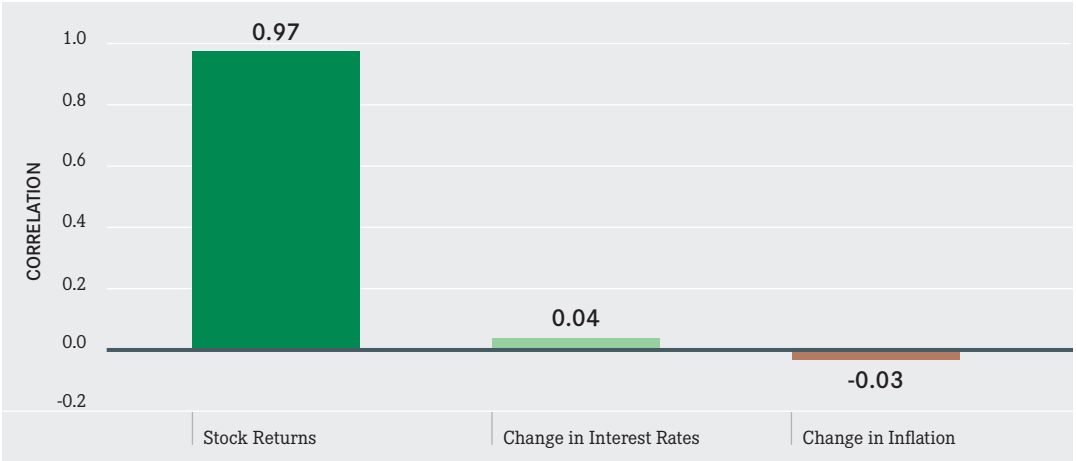
Sources: BlackRock; Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes only and is not meant to represent the performance of any particular investment. The data assumes reinvestment of all income and does not account for taxes or transaction costs. It is not possible to invest directly in an index. Undiversified 60/40 Portfolio is composed of 60% S&P 500 Index and 40% Barclays Capital Credit Index. Diversified 60/40 Portfolio is composed of 12% S&P 500 Index, 12% S&P 400 Mid Cap Index, 12% S&P 600 Small Cap Index, 12% MSCI EAFE Index, 12% MSCI Emerging Markets Index, 13.3% Barclays Capital Credit Index, 13.3% Barclays Capital US Treasury Index and 13.3% Barclays Capital US High Yield Index.

The point I'm making is that investors cannot necessarily rely on what is traditionally thought of as diversification to meet their long-term goals. Whether it's correlations between stocks in different markets or between long- and medium-duration fixed income investments, during times of stress returns can easily move closer together.

It is also important for investors to understand the sources of risks in their portfolios. Take the traditional 60/40 portfolio as an example. Even though 40% of this portfolio is invested in bonds, almost all of the risk in the portfolio is equity risk. The below chart shows that over the last 15 years, the correlation of returns between a 60/40 portfolio and a 100% equity portfolio was 0.97, meaning that they were almost perfectly correlated. Even a portfolio that is exceptionally overweight bonds shows a similar trend. A 30% stock/70% bond portfolio had a 0.82 correlation to a 100% stock portfolio. To me, that says that a long-only stock and bond portfolio isn't full diversification.

Chart 5: Even Balanced Portfolios Correlate Strongly to Stocks

Correlation of Traditional 60/40 Portfolio to Risk Sources Over the Last 15 Years (1996-2010)



Sources: BlackRock; Bloomberg; Informa Investment Solutions. Traditional 60/40 portfolio composed of 60% S&P 500 Index and 40% Barclays Capital Credit Index, rebalanced annually. Stock returns are represented by the S&P 500 Index. Change in interest rates represented by the monthly change in the 10-Year Treasury Yield. Change in inflation is represented by the Consumer Product Index. Past performance does not guarantee or indicate future results. It is not possible to invest directly in an index.

The key takeaway is that investors need to rethink their overall approach to portfolio construction and start thinking in terms of risk diversification and getting exposure to as many different and non-correlated types of risk that they can.

Q So what is the difference between "diversification" and "portfolio construction"?

A Investors need to think hard about portfolio construction and the risks they are taking in their portfolios, because the fact is that diversification is not as obvious as many may have thought, although it's also not abstruse. As we discussed earlier, investors need to understand where the risks in their portfolios are coming from. They may believe that they are diversified and exposed to different types of risks, but as we saw in the example we just discussed, they may not be.

The key takeaway is that investors need to rethink their overall approach to portfolio construction and start thinking in terms of risk diversification and getting exposure to as many different and non-correlated types of risk that they can. That's what I mean by portfolio construction — building a portfolio based on risk exposures and not just so-called "asset classes" or "sub-classes."

Q So from a practical perspective, what does it mean to have exposures to multiple risks?

A The objective for investors should be exposure to a variety of risks, in proportion to their risk preferences and circumstances. By that, I mean investors should complete the spectrum of risks they take to the greatest extent they can. In other words, investors should hold as many different assets and exposures as they possibly can, according to their specific circumstances.

Investors should almost surely have some amount of real estate in their portfolios, they should have real assets and perhaps commodities, they might have exposure to international investments, and they perhaps should have long/short investments. In short, investors should try to own as many different asset classes that have as many different types of risks as possible.

This doesn't mean that all risks are the same and it doesn't mean that investors should necessarily equal-weight their portfolios among all of these risks. Investors need to work with their financial professionals to choose and blend the risks that make sense for their unique circumstances.

Q When you talk about diversifying and blending different risks, it sounds as if you're talking about alternative investing. Is that a fair characterization?

A I would say, "yes," but would point out that it would depend on what you mean by alternative investing. Coming up with a single definition of "alternative investing" that would satisfy everyone is probably impossible. The term "alternatives" tends to be shrouded in mystery, which is a result of the fact that, historically, access to the types of risk-diversifiers I have been talking about has been available largely to those who own or manage extremely large pools of capital, such as large pension plans, endowments, sovereign wealth funds and the ultra-wealthy. Fortunately, that is starting to change, and now the advantages of the approach I'm talking about should be available to all investors.

If an investor starts with the goal of low correlation, both in general and particularly in times of stress, that investor would have a better chance of being truly diversified. So in that context, then absolutely I'm talking about alternative investing.

If an investor starts with the goal of low correlation, both in general and particularly in times of stress, that investor would have a better chance of being truly diversified. So in that context, then absolutely I'm talking about alternative investing.

Q That raises the question of how you would define alternative investments.

A Most people think of "alternatives" as a single asset class or strategy. In fact, it is not. Alternatives provide access to sophisticated investment strategies and types of investments that cross asset classes, broaden diversification opportunities and potentially widen portfolio correlations.

I would rather define alternative investments as core diversifiers, sources of potential return and investments that provide risk exposures that, by their very nature, have a low correlation to something else in an investor's portfolio. And that's true irrespective of what that investor's measure of risk might be — whether he or she is concerned about return volatility, risk of ruin or maintaining the value of his or her portfolio. All of these risks are connected to the idea of diversification, the idea of gaining access to different risks within a single portfolio.

Alternatives provide access to sophisticated investment strategies and types of investments that cross asset classes, broaden diversification opportunities and potentially widen portfolio correlations.

For me, this is a useful definition, because it broadens the common understanding of what alternatives are, and in doing so, makes it more approachable to a wider category of investors. If we think of alternatives in this way, they are no longer exotic types of investments that most people will never be able to access, but rather they become instruments available to all investors designed to help diversify portfolios by taking on different types of risks.

The concept of alternative investing is really about going beyond what a traditional 60/40 portfolio might look like by either going long on assets that are not already present or by engaging in trades that provide a new source of diversification.

Q So what, then, are these different types of risks? What sort of asset classes would you include in your definition of alternative investments?

A This is a question that really takes the discussion from the more theoretical to the practical. And so, from a practical perspective, I think I would agree with the notion that an alternative investment can be anything other than a long-only equity or long-only bond investment.

Given that categorization, there would be many different types of examples. I would include certain so-called arbitrage strategies, distressed debt, infrastructure investments, commodities, real estate, real assets and, of course, long/short strategies in this group. Trading commodities futures contracts, for example, and gaining the ability to go long or short such a contract, could provide a potential source of return that is diversified from traditional long-only assets. Certain currency trades would be another example. Going long the US dollar and short the Japanese yen at certain times, for instance, can provide diversified risk to a portfolio.

As I've said before, the concept of alternative investing is really about going beyond what a traditional 60/40 portfolio might look like by either going long on assets that are not already present or by engaging in trades that provide a new source of diversification.

Chart 6: An Enhanced Definition of Diversification

Traditional Diversification Relies On

Traditional Equity		Traditional Fixed Income	
Large Cap	Growth	Treasuries	Floating Rate
Mid Cap	International	Corporates	Global
Small Cap	Emerging Markets	High Yield	International
Value		MBS/ABS	

Enhanced Diversification Can Include

Equity Alternative Strategies	Fixed Income Alternative Strategies	Alternative Assets
Long/Short	Duration Management	Gold
130/30	Yield Management	Commodities
Market Neutral	Long/Short	Currency
Short Bias	Opportunistic/Unconstrained	Infrastructure
Private Equity	Distressed Debt	Real Assets
Convertible/Merger Arbitrage	Credit Arbitrage	Real Estate

Q **Traditionally, when individual investors think about the concept of alternative investments, they think about them as being high-risk, high-reward investments. Is that the wrong way to think about alternatives?**

A There is definitely a set of myths around alternatives. There's a sort of implicit understanding that alternatives are expensive, illiquid, highly volatile and inaccessible to most investors.

Some of the investments we've been talking about can certainly be highly volatile. However, others might exhibit extremely low volatility. Investors need to understand what risks they are taking on and how these risks work together to provide appropriate diversification.

Part of the misconception comes from the fact that, traditionally, a lot of so-called "alternative investments" have been sold as fixed income substitutes. Hedge funds in particular have often been pushed as offering equity-like returns with fixed income risk, but that's really not accurate. As we saw during the credit crisis, most hedge funds certainly did not act that way. So it's not enough for an investor to decide to take a portion of their fixed income allocation and invest in a hedge fund and think they are adequately diversified.

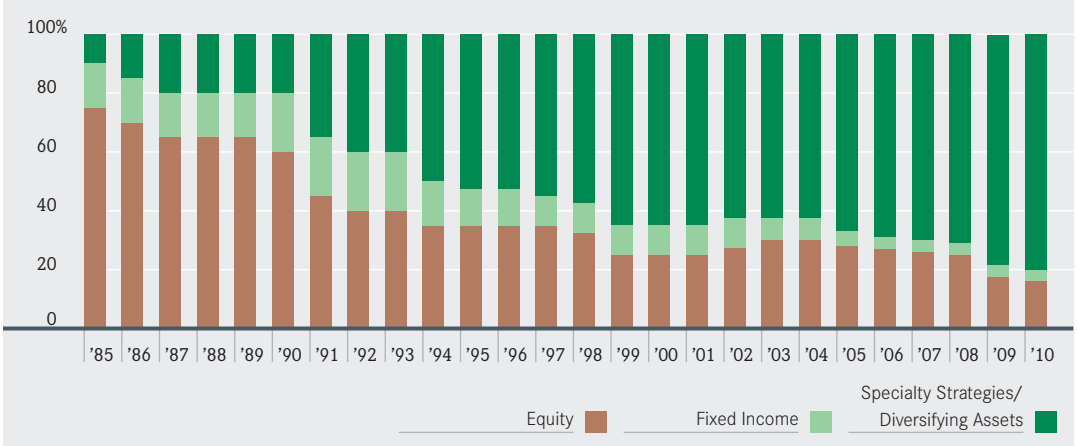
Q **So how would an individual investor go about implementing these sorts of strategies in his or her portfolio?**

A We can start to answer that question by discussing what is commonly referred to as the "Endowment Model." Over the past 25 years, a number of large endowments like the Harvard and Yale endowments have famously restructured their portfolios to allocate a large percentage of their assets to "alternatives," meaning investments other than long-only public equity and long-only public fixed income. (See Chart 7.)

Some of the investments we've been talking about can certainly be highly volatile. However, others might exhibit extremely low volatility. Investors need to understand what risks they are taking on and how these risks work together to provide appropriate diversification.

Chart 7: The "Yale Model" Has Become Heavy on Alternatives

Yale Endowment's Allocation to Alternative Investments Continues to Increase Over Time

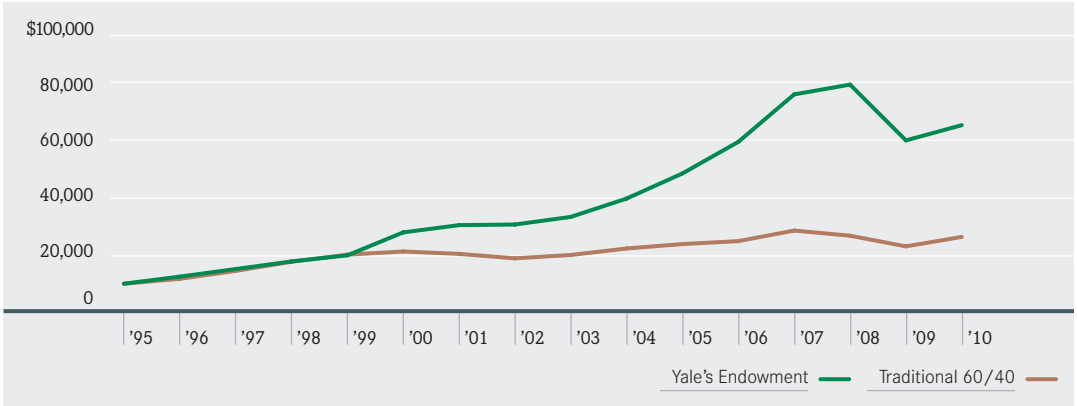


Source: Yale Endowment Reports 2005-2010. Target asset allocation as of June 30 for each year. Excludes cash.

The reason, of course, that the Yale example is so well known is that the Yale endowment has reported exceptionally strong returns over the long term when compared to a more traditional approach. (See Chart 8.)

Chart 8: Yale Has Outperformed the 60/40 Model

Growth of a Hypothetical $10,000 Investment Over the Last 15 Years (June 1995–June 2010)



Source: BlackRock; Informa Investment Solutions; Yale Endowment Reports 2005-2010. Performance as of June 30 for each year. Past performance is no guarantee of future results. The information provided is for illustrative purposes only and is not meant to represent the performance of any particular investment. The data assumes reinvestment of all income and does not account for taxes or transaction costs. It is not possible to invest directly in an index. Traditional 60/40 Portfolio is composed of 60% S&P 500 Index and 40% Barclays Capital Credit Index.

I'm not suggesting that individual investors follow the Yale approach per se, but it is a constructive example to look at how one very well-known investment approach has been successful over time.

Now, it's important to emphasize that I'm not suggesting that individual investors follow the Yale approach per se, because there are vast differences between what an individual investor can do and what an endowment can do, but it is a constructive example to look at how one very well-known investment approach has been successful over time.

Q **So what are some of the differences between what an individual investor can do and what the Yale endowment has done?**

A A lot of it has to do with the issue of liquidity and investment time horizons. An investor like the Yale endowment is likely far less concerned about liquidity than an individual investor would be. Obviously a university endowment has a much longer investment time horizon than any one person. An investor like an endowment, moreover, would actively seek out highly illiquid investments (like some forms of private equity), since illiquidity is a risk that investors should be compensated for. Few individual investors could or would choose to have the same degree of illiquidity in their portfolios that a large endowment might.

Q **Given some of these liquidity considerations, how should individual investors think about incorporating some of these "new diversifiers" into their portfolios?**

A Many individuals are looking for investments that provide liquidity, transparency and clearly identified fee structures. These are some reasons why mutual funds are so popular — they are specifically designed and structured to provide these benefits.

Now, individual investors are fortunate in that the past couple of years have witnessed the advent of a number of the strategies we are talking about in a mutual fund or related structures, including commodities and currency-related funds, long-short strategies and specialized equity and fixed income investments. These are products designed for individuals and which mitigate illiquidity and transparency concerns while still seeking out sources of diversified risks.

Additionally, compared to the way that "alternatives" have traditionally been packaged (as private placement vehicles typically designed for only certain types of investors), mutual funds also have several advantages. Mutual funds are more highly regulated and thus are subject to greater oversight. The tax reporting of mutual funds is also simpler (i.e., 1099 vs. Schedule K-1 tax reporting).

Individual investors are fortunate in that the past couple of years have witnessed the advent of a number of the strategies we are talking about in a mutual fund or related structures, including commodities and currency-related funds, long-short strategies and specialized equity and fixed income investments.

Q **Are there any downsides to investing in these sorts of strategies in a mutual fund?**

A Well, there certainly are some types of investment strategies that wouldn't fit easily into a mutual fund vehicle due to their investment characteristics or legal restrictions on these funds. Privately-placed bank debt obtainable as a Rule 144A security, for example, can be extremely illiquid and may not work in a mutual fund structure. I could argue, however, that this is probably an asset class that isn't appropriate for many individual investors anyway.

Mutual funds also have certain restrictions on leverage, which create some management limitations, but, again, that's the point of mutual funds — they are designed, in part, to protect investors from being exposed to risks they don't want to bear.

So, I guess the downside to the mutual fund structure is that they can't invest in everything in every way that might be desirable to some investors, but for many investors that downside can be outweighed by the upside of being protected from some risks that may not be appropriate.

Q **So from a portfolio construction perspective, what percentage of an individual's portfolio should be in "alternatives" or "diversifiers?"**

A It's a great question, and it reveals the limitations of the way most investors have approached the question of portfolio construction. Traditionally, most of an investor's portfolio was in long-only equity and long-only fixed income, and they may have allocated up to 10% or so to what most people think of as "alternatives." As we have been discussing, however, this approach has severe limitations.

Once we move the dialogue into a discussion of risk diversification, these types of investments may legitimately take on a much greater percentage of an individual's portfolio. I'm not suggesting that all people should copy the Yale model and have almost all of their portfolios in "alternatives,"

What I really think investors need to do is work with their financial professionals to identify the current risks in their portfolios and find new ways to mitigate those risks with different types of investments.

but I would argue that the percentage for almost everyone should be significantly larger than 10% for the risky portion of their portfolios.

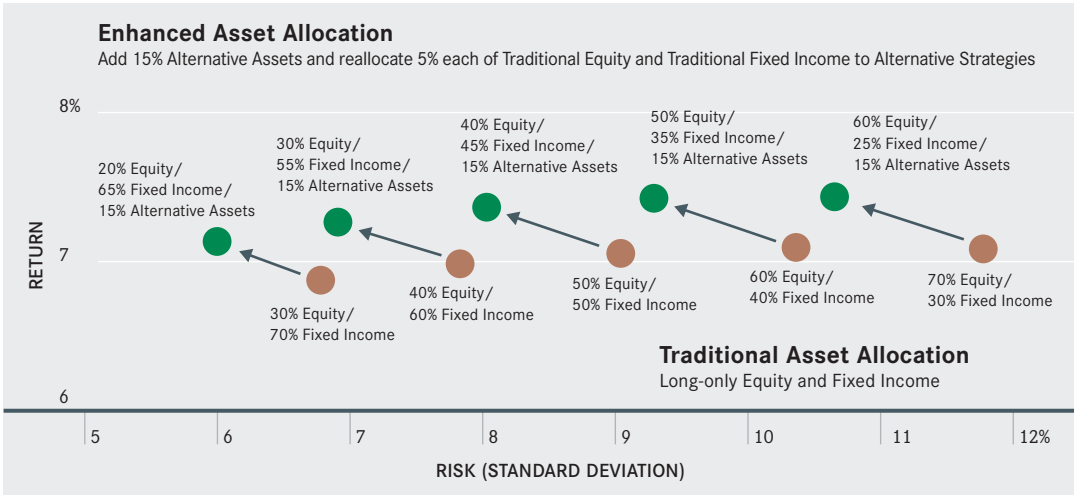
Q **So how should an individual investor who currently has a traditional 60/40 type of portfolio think about incorporating new types of assets into their portfolio?**

A There's no simple mapping process that is going to work for every investor, but what I really think investors need to do is work with their financial professionals to identify the current risks in their portfolios and find new ways to mitigate those risks with different types of investments. That conversation should result in a discussion about reducing some of their long-only equity investments and some of their long-only bond investments in favor of new sources of diversification. Those could include myriad diversifying investments such as commodities and currency trades or specialized equity and fixed income investments that have low correlations to long-only strategies.

I believe that making these sorts of moves could have a benefit in terms of enhanced diversification. As an example, consider the exhibit below, which shows what would have happened to a variety of traditional, long-only portfolios if a 15% allocation to alternatives and 5% each to alternative/specialty equity and fixed income investments were added. In each case, the risk profile was reduced while the return was improved. Obviously, these are hypothetical examples, and past performance is not always indicative of future results, but I think they would make for a good starting point for a discussion between an individual investor and his or her financial advisor.

Chart 9: Alternatives Improve Risk/Reward Profiles

Expanding the Efficient Frontier Over the Last 15 Years (1996–2010)



Sources: BlackRock; Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes only and is not meant to represent the performance of any particular investment. The data assumes reinvestment of all income and does not account for taxes or transaction costs. It is not possible to invest directly in an index. **Traditional Equity** is represented by the S&P 500 Index. **Traditional Fixed Income** is represented by the Barclays Capital Aggregate Bond Index. Enhanced portfolios add a 15% allocation to alternative assets and a 10% allocation to alternative strategies. To fund these additional allocations, the equity allocation of each traditional portfolio is reduced by 15% and the fixed income allocation is reduced by 10%. The 15% allocation to alternative assets is represented by a 5% allocation to the S&P Goldman Sachs Commodity Index, a 5% allocation to the Barclays CTA Index and a 5% allocation to the NAREIT Equity Index. The 5% allocation to equity alternative strategies is represented by the Dow Jones/Credit Suisse Long Short Equity Index. The 5% allocation to fixed income alternative strategies is represented by the Dow Jones/Credit Suisse Fixed Income Arbitrage Index.

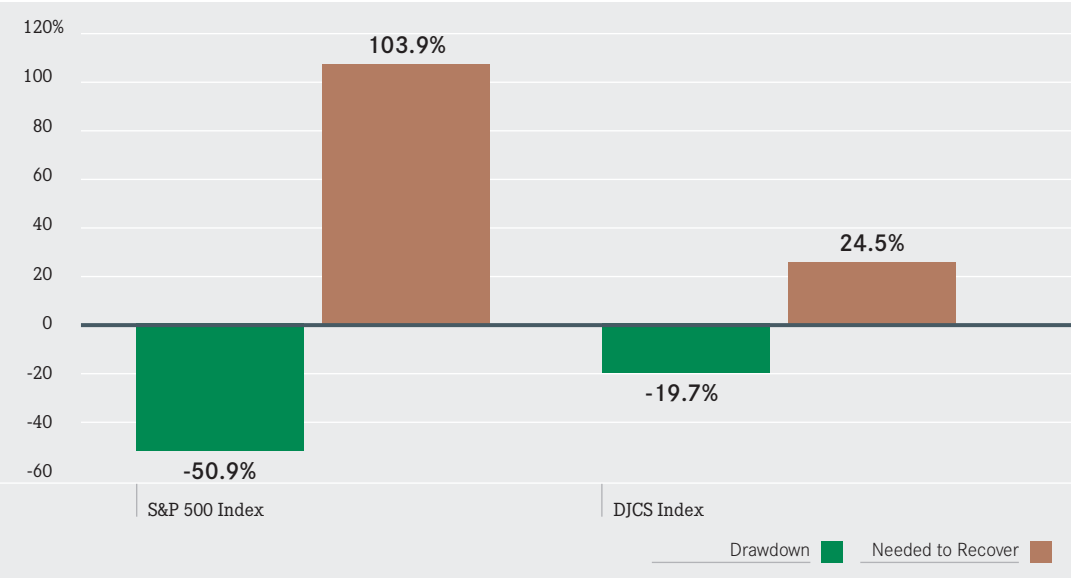
Q **Let's go back to a discussion of the last few years. How did alternative investments fare compared to traditional investments?**

A That's an important question, because I want to emphasize that I'm not suggesting that adding more diversifiers, more alternatives, or whatever you want to call them would ever totally protect a portfolio from negative returns or would completely insulate a portfolio from a financial crisis. I don't think there is anything that can do that perfectly or completely.

That aside, however, I would point out that so-called alternative investments generally lost less on the downside during the credit crisis, and hence had an easier road to recovery. There are a number of ways that this point could be looked at, but for a simplified example, we can compare the performance of the S&P 500 Index and the Dow Jones Credit Suisse Hedge Fund Index (DJCS) over the last 10 years. The chart below shows the maximum loss each index experienced during the heart of the crisis (i.e., the amount that each index lost from the fall of 2007 through late winter 2009). The S&P 500 experienced over a 50% loss, which would mean that it required a more than 100% appreciation to return to its starting point. The DJCS Index, on the other hand, recorded a relatively more modest 19.7% loss, translating into around a 25% appreciation needed to recover.

I would point out that many so-called alternative investments generally lost less on the downside during the credit crisis, and hence had an easier road to recovery.

Chart 10: Alternative Investments Fared Better During the Crisis



Sources: BlackRock; Informa Investment Solutions. Past performance is no guarantee of future results. The information provided is for illustrative purposes only and is not meant to represent the performance of any particular investment. The data assumes reinvestment of all income and does not account for taxes or transaction costs. It is not possible to invest directly in an index.

Q **If an individual investor did want to move his or her portfolio toward this "enhanced asset allocation," how should they go about choosing specific investments? What should they look for in an asset manager?**

A Choosing the right asset manager is always important, and I would argue that it's even more critical when selecting someone to manage an alternative investment or any sort of highly specialized strategy.

I really think that only managers that have operational excellence, that have robust risk management systems and that have rigorous compliance controls should be operating in this space.

Investors need to be diversified in general, but they also need to be diversified for the extreme. If they are not, they may be setting themselves up for failure.

Q **Any final thoughts for investors as they consider and reconsider the concepts of portfolio construction?**

A The first thing I would say is that the intuitive concepts of Modern Portfolio Theory and diversification are alive and well. It may sound like I have been advocating a radically different notion of managing risk and constructing portfolios, but I'm really not. The approach I've outlined is about trying to help investors understand what risks they are taking and how they can get further down the path of diversification.

Also, I would remind investors that it is important to manage expectations and to remember the long run. We will almost certainly see some other sort of crisis in the future. It might not look exactly like the crises we've seen in the past, but it will happen. And investors need to be prepared for that. We have seen extremes in the past, and we will see extremes in the future. The world presents multitudinous risks, and not all of those risks can be accounted for in traditional investing. Investors need to be diversified in general, but they also need to be diversified for the extreme. If they are not, they may be setting themselves up for failure.

About BlackRock

Delivering Scale That Benefits You

When you invest with us, you benefit from the size, stability and experience we offer. We have been entrusted with more than $3 trillion in assets, making us the largest investment manager in the world, and giving us the opportunity to help millions of investors build a better financial future.

Transforming Local Presence Into Global Perspective

Every day, our portfolio managers and analysts become better investors by sharing with each other insights from around the world. We provide you with up-to-date developments on major markets and asset classes at **www.blackrock.com.**

Assuring Consistency of Risk and Return

The cornerstone of our investment philosophy is to understand the sources of investment risk and make certain the risk we take is appropriate for every investment portfolio. Our goal? To provide you consistent investment results with fewer surprises.

For a current prospectus or, if available, a summary prospectus of any BlackRock mutual fund, which contains more complete information, please call your financial professional or BlackRock at 800-882-0052. Before investing, consider the investment objectives, risks, charges and expenses of the fund(s) under consideration. This and other information can be found in each fund's prospectus or, if available, summary prospectus. Read each prospectus carefully before you invest.

The opinions presented are those of Professor Christopher Geczy as of September 2011, are not necessarily those of BlackRock or The Wharton School, and may change as subsequent conditions vary. Individual portfolio managers for BlackRock may have opinions and/or make investment decisions that, in certain respects, may not be consistent with the information contained in this report. This material is not intended to be relied upon as a forecast, research or investment advice, and is not a recommendation, offer or solicitation to buy or sell any securities or to adopt any investment strategy. The information and opinions contained in this material are derived from proprietary and nonproprietary sources deemed by BlackRock to be reliable, are not necessarily all-inclusive and are not guaranteed as to accuracy. Past performance does not guarantee future results. There is no guarantee that any forecasts made will come to pass. Reliance upon information in this material is at the sole discretion of the reader.

No investment is risk free. International investing involves additional risks, including risks related to foreign currency, limited liquidity, less government regulation and the possibility of substantial volatility due to adverse political, economic or other developments. The two main risks related to fixed income investing are interest rate risk and credit risk. Typically, when interest rates rise, there is a corresponding decline in the market value of bonds. Credit risk refers to the possibility that the issuer of the bond will not be able to make principal and interest payments. Investments in commodities may entail significant risks and can be significantly affected by events such as variations in the commodities markets, weather, disease, embargoes, international, political and economic developments, the success of exploration projects, tax and other government regulations, as well as other factors. Index performance is shown for illustrative purposes only. You cannot invest directly in an index.

FOR MORE INFORMATION: www.blackrock.com

Prepared by BlackRock Investments, LLC, member FINRA.

Lit. No. GECZY-NEW-ERA-0911R AC5481-0911 / 11-0813

BLACKROCK®