The Outlook for Alternative Investments

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Keith Black: CAIA is pleased to announce the second edition of the textbook for the Level II exams: Advanced Core Topics in Alternative Investments. This book will be published in September 2012, and will be required reading for the March 2013 Level II exam. Given that alternative investment markets change quickly, CAIA regularly revises the required readings. The book was edited by Keith Black, Donald R. Chambers, and Hossein Kazemi, with contributions from a number of other authors, including Mark Anson, Jim Liew, Francois-Serge Lhabitant, David McCarthy, Galen Burghardt, Thomas Meyer and Pierre-Yves Mathonet. The interview below reflects the ever-changing nature of alternative investments and highlights the themes most important within each sector.

Given that you have a broad interest in alternative investments, do you have one particular area (hedge funds, private equity, real assets, etc.) that has interesting recent developments?

Mark Anson: The secondary market for HF, PE and RE funds. We have found that there is a lot of structural alpha offered right now in buying secondary interests in HF, PE, and RE. For a well-diversified HFOF, we seek an absolute return (NOT a LIBOR pegged return) of +8% with equity, FI, and credit betas of 0.4, 0.2, and 0.4.

Keith Black: It has been interesting to see the growth of real assets in investor portfolios. In 2003, infrastructure and commodity assets likely totaled less than $20 billion. Recently, Preqin estimated infrastructure assets at $174 billion while Barclays estimates the size of the commodity market at over $420 billion. Commodities have been increasingly offered in the format of exchange-traded products, which have raised over $200 billion, much of which is from retail investors. There is a concern, however, that the increased flows into commodity investments may move commodities toward financial assets, which is a concern if there is a permanently increased correlation between commodity markets and equity markets, as this would impair the diversification potential of commodity investments.

What are the most important recent developments in hedge funds? What forecasts do you have for the coming 1, 3 and/or 5 years regarding hedge funds?

Jim Liew: There appears to be less evidence that established, larger managers can consistently deliver alpha on an increased asset base. The markets continue to be more efficient than hedge fund managers would lead investors to believe. Capacity-constrained alpha provides the best risk-return ratio. Nonetheless, larger liquid strategies are readily marketed to investors. Additionally, it appears that larger hedge funds are leveraging their own brand names and strong operational infrastructure to offer long-only complementary products. As hedge funds struggle to survive, one successful strategy is to morph into an asset management company with multiple mutual fund-type products. The race for asset gathering will continue as mutual funds and hedge funds converge.

Francois Lhabitant: The number of hedge funds has grown exponentially and they are now openly marketed to retail investors, for instance under the UCITS or managed accounts formats. Institutional investors are also increasingly interested, but they want a high level of liquidity and transparency. As a result, for many hedge funds, asset gathering seems to be more important than generating risk-controlled performance. Not surprisingly, since alpha is a zero sum game minus fees, the average performance of the hedge fund industry has been disappointing and is likely to remain disappointing. The increased regulation of investment banks has dramatically transformed the hedge fund landscape, and this will continue. For instance, many teams are leaving proprietary trading desks to create hedge funds. So far, they easily raise assets, but few have been successful from a performance perspective. On a forward-looking basis, the debt crisis in Europe presents a plethora of investing opportunities for hedge funds, provided they can lock up capital for longer periods.

What are the most important recent developments in managed futures? What forecasts do you have for the coming 1, 3 and/or 5 years regarding managed futures?

David McCarthy: One of the most interesting recent developments regarding managed futures is their increasing availability through mutual funds in the U.S. Both single-manager and multi-manager mutual funds have been launched in the past few years and their AUM growth has been quite remarkable. It's not clear if this is a "buyer demand" or "seller push" phenomenon. Time will tell. Performance has not been particularly attractive for many of these funds since launch. But, performance across the entire industry has been lacking over the same time period. So, this performance issue is not really a function of the fund structure, per se. Also, there are very significant regulatory reviews of these (and other products using derivatives) underway in the U.S. The ability to offer these mutual fund products, in a reasonably similar form to a traditional managed futures product, may also change in the future. But, if the regulatory issues can be worked out, I would expect this to be a fast-growing area and present significant challenges and opportunities to the industry over the next three to five years.

Galen Burghardt: It depends on what you mean by recent. To my mind, the experience of 2008 and 2009 was a great crucible for testing the claim of zero correlation between CTA returns and those on stocks and bonds. The increased pressure on the industry's fee structure is also a real hurdle for many institutional investors.

What are the most important recent developments in private equity? What forecasts do you have for the coming 1, 3 and/or 5 years regarding private equity?

Thomas Meyer and Pierre-Yves Mathonet: As a matter of clarification, Pierre-Yves and I look at private equity mainly from the institutional perspective, i.e., investors who as limited partners build up portfolios of funds. Many now believe that the private equity industry's best days are over. Arguably this industry became a victim of its own successes where the very benevolent environment investors had been facing until 2008 – with expectations that high returns be virtually assured – has eroded incentives for financial institutions to critically look at their approaches to managing this activity and particularly understanding its risks. Moreover, at least in our view, the industry has attracted too much money, too quickly and from too many institutions that are unfamiliar with this asset class and neither have the profile nor the skills to become successful here.

Regarding the "coming 1, 3 and/or 5 years" forecast, we feel almost provoked. For limited partners this is a very long-term asset class, and the short-termism and the attempts to bring a trader's mentality to private equity – e.g., through exaggerated claims regarding secondary opportunities – has been THE problem bugging the industry. Take, for example, the recurring discussions about the limited partnership model as the dominant investment vehicle to be broken and destined to disappear. Here fund managers complain that periodic fundraising requires a too substantial amount of time and resources which could be better spent on sourcing and making investments. Investors have also expressed concerns, albeit from the opposite angle. The apparently high level of management fees plus locking up capital for a period of ten years or more play a key role in this regard.

Such sweeping conclusions appear to be based on too few facts and little reflection. However, we are convinced that refining the understanding of the limited partner's investment process is the key to unlocking the true potential of this asset class. In the case of venture capital, a very recent paper by the Kauffman Foundation has argued that investment committees and trustees should shoulder blame for the broken limited partner investment model, as they created the conditions for the chronic misallocation of capital. We do not know whether private equity will take this course over the next five years, but we see a smaller asset class with more sophisticated and ultimately consistently successful limited partners. Training and education will play a strong role here. (http://www.kauffman.org/newsroom/institutional-limited-partners-must-accept-blame-for-poor-long-term-returns-from-venture-capital.aspx)

How has the financial crisis affected the real estate and structured product markets? What opportunities has this created for investors?

Don Chambers: The financial crisis that began in 2007 has brought tremendous change and uncertainty to institutional real estate investing. Institutional real estate investors should focus on the continuing effects of the financial crisis to locate and analyze opportunities. Take, for example, the U.S. commercial real estate market. After reaching peak values in 2007 and plummeting through 2009, U.S. property values have partially recovered. These huge value swings have generated interesting opportunities. Many properties that were financed near the market peak of 2007 now have maturing loans due to five-year balloon payments. Investors are struggling to roll the mortgages as the paper comes due.

Mark K. Bhasin, Vice President of Basis Investment Group in New York (and a CAIA member), provides an example: consider a $50 million deal financed with a $40 million mortgage in 2007 based on an LTV of 80%. Now the property is worth perhaps only $40 million and the mortgage is due because of a balloon payment. The new and lower value of the property might only support a $28 million senior loan due to both the declining real estate value and a lower typical LTV of perhaps 70%. The owner may have sufficient cash to meet the gap between the balloon payment on the mortgage and the size of the new senior mortgage or may seek a discounted payoff (DPO) from the lender.

But another possibility is the use of mezzanine financing. Bhasin believes that investors seeking 10-15% returns may find attractive opportunities by providing mezzanine loans or preferred equity to expand the total financing from the 70% LTV of the new mortgage to a total of perhaps 85% financing using the mezzanine funds. These opportunities are likely to remain available for a few years as other mortgages come due and as borrowers who have received loan extensions seek exits.

A similar opportunity generated by the financial collapse arises from the increased demand for and reduced supply of bridge financing. A bridge loan can be used, for example, to finance a project that is being stabilized so that it can be brought to market as a core property. Perhaps the goal is to bring occupancy up from low level such as 60% to a stabilized level of 95%. The collapse of the CDO market for such financing may open up opportunities or investors to provide the bridge financing directly through lines of credit. In effect, institutional investors may be switching from bridge loans embedded in CDOs to direct financing.

As the financial crisis rolls through Europe and perhaps elsewhere, investors may increasingly seek opportunities through cross-border investments. Having experienced the financial crisis first in the U.S., institutional investors may find opportunities from applying their experiences in markets facing stresses on a delayed basis. In effect, cross-border investing now offers real estate investors the opportunity to market-time the effects of financial crises as they vary throughout the world both in timing and magnitude.

More broadly, what are the most important recent developments for alternative investments as a whole? What forecasts do you have for the coming 1, 3 and/or 5 years for the alternative investment industry?

Thomas Meyer and Pierre-Yves Mathonet: Regulation, Basel III and for Europeans Solvency II spring to mind, Regulation has always been perceived as a major threat to alternative assets in general. However, financial regulation can also offer opportunities. Alternative assets, certainly private equity in particular, have always argued with consistent out-performance compared to traditional assets which going forward is becoming increasingly difficult to substantiate. But in our experience, the risk / return relationship for diversified and well-selected portfolios of alternative asset funds can be highly attractive. To make this point the risks inherent in these activities need to be quantified – which at least in private equity was never done so far. Only recently, the European Private Equity and Venture Capital Association has initiated a project on industry guidelines (where Pierre-Yves and I were members of the working group) to measure the financial risks of private equity funds.

Determining, say, a value-at-risk for a portfolio of alternative assets requires significant investments in financial modelling and information technology which many institutional investors so far were not prepared to do. However, the trend towards a more "technical" management, embedding alternative assets in a strategic asset allocation and asset liability management becomes unstoppable. It will not be sufficient to say "we are good in selecting fund managers." Finally, the lines between alternative assets get increasingly blurred. It is less and less possible to operate as private equity / real estate / hedge fund specialist – investors need to know how these assets interact and who they can be best combined.

Jim Liew: Managed account platforms are a perfect way to plug the gap between weak operations of newly started hedge funds and the strong confidence in reducing operational/fraud risks. They appear to be the right venue to examine new managers for institutional investors and sovereign wealth funds who may venture into smaller managers with limited track-records. Additionally, investors are becoming keenly aware the dangers of "over-crowded" strategies and the link between hedge funds and the policies/politics within countries.

Francois Lhabitant: The massive inflows in alternative assets have generated the wrong incentives for many alternative asset managers – not just hedge funds. The typical consequences are: increasing assets under management rather than performance, going public or creating listed vehicles, providing excessive liquidity terms to their investors, getting into crowded trades, and/or venturing into areas where they do not have much expertise.

Mark Anson: The democratization of alternatives. This is a result of the ETF market. But now there is easy/retail access to commodities both in broad baskets as well as individual commodities (gold, silver, platinum, oil, etc.). We continue to see the convergence of alt managers and traditional managers. Alt managers are now offering "fee discount" long-only products, while traditional managers are offering "fee premium" alt products. This convergence will continue. We also see Mega PE managers becoming the new Investment Banks—e.g., Carlyle, TPG, Apollo.

Keith Black: After 2008, there is a definite focus on due diligence, liquidity and tail risk. Investors are moving beyond simple risk and return statistics to focus on the liquidity and downside risk of investments. In this environment, strategies such as convertible arbitrage suffer, while managed futures, which have both superior liquidity and downside performance, have doubled assets in the last three years.

David McCarthy: Again, the growth in "liquid alternatives" in mutual funds and ETFs is significant. There are a lot of reasons for U.S. investors to be interested in these—liquidity, 1099's rather than K1's, greater transparency. There are challenges as well: there are regulatory reviews here, as in managed futures; some strategies won't lend themselves to daily liquidity; other strategies may not be able to achieve similar leverage as in a private offering. But, many common alternative investment strategies (e.g., long/short equity) may be completely appropriate in a liquid form. It will be interesting to track their relative performance against the same strategies in traditional LP structures.

Galen Burghardt: A number of things are coming together in an interesting way. Institutional investors -- and pension funds in particular -- have to come to grips with the fact that bonds cannot repeat their performance of the past 30 years. And stocks, while they may yet produce the risk premiums for which they are conventionally known, have shown themselves to be far riskier than conventional volatility measures show them to be. The two massive and extended drawdowns that equity investors have experienced since 2000 were very telling. Against this backdrop, managed futures have been maturing as a promising and respectable form of investment. With $300 billion and more under management, and with business operations that make them look like real money managers, the industry's chances for growth are really quite promising.

How sustainable is the HFOF model? 10 years ago, the HFOF industry sold itself on "access"—that they had better access to HF managers. This is no longer the case. So HFOF now sell risk management, performance reporting, and performance attribution. But, is there any return alpha associated with a HFOF now a days?

Jim Liew: Hedge funds have become mainstream. The broad public knows the faces and names of the largest hedge fund managers thanks in large part to CNBC, Bloomberg, social media, and other sources. As such, no longer can access be marketed as an advantage. The hedge fund of funds vehicles are coming to an eventual end. Currently, institutional investors can easily identify the largest managers with long histories and strong operational infra-structure. Moreover, popular hedge fund underlying strategies currently employed are generally well-understood.

Why do institutional investors continue to herd when investing in hedge funds? Why is it so difficult to create hedge fund benchmark products?

Why don't the consultants create a ratio that measures how much the hedge fund manager has made for themselves over how much they have made for their investors? We should call it the "Me vs. You" ratio.

Keith Black: That's quite a few questions you have, Jim. Unfortunately, I think that institutional investors focus on recent returns rather than the bundle of risk factors that their hedge fund investment adds to their portfolio. Specifically, investors were disappointed in 2008, when market neutral arbitrage products posted large negative returns due to the exposure to liquidity and leverage risks.

Hedge fund benchmarking is quite difficult. To date, the efforts have been focused on peer universes, which, at a minimum, suffer from self-selection and backfill biases. Given that there are thousands of hedge funds, many of which have high minimum investments or are closed to new investors, it is not feasible to invest in the universe of hedge funds. Factor-based hedge fund replication products do not adequately track the hedge fund universe, as liquid factor-based investments can't replicate the liquidity risk, complexity risk and event risk that contribute a substantial portion of hedge fund returns.

Jim, I think there is a growing awareness of the fee burden of hedge funds, especially in the funds of funds space. At the institutional level, there is substantial fee compression in hedge funds. Large investors who can invest $10 million to $50 million in a single fund have substantial bargaining power on the terms of the fund.

Shouldn't regulators focus on protecting non-sophisticated investors from venturing into alternative investments?

Thomas Meyer: I totally agree, but I do not have the impression that regulatory philosophy is developing in this direction. The thrust of regulation like the AIFMD is making alternative assets "safe" which is almost comparable to the attempt to increase safety standards in Formula One by requiring a first aid kit and a spare tire on board every racing car. This approach to regulate risk out of alternatives is counterproductive and almost absurd. Rather than trying to make alternatives "safe" the right approach would be making sure that the investors in this asset class have the right skills, profile, processes, systems and resources - to stay with the analogy, are qualified Formula One drivers instead of somebody with my driving skills.

Francois Lhabitant: Thomas' comment is straight to the point - funny enough, I often use the same analogy in my classes as well.

In the U.S., it seems to me that the investor sophistication has historically been associated with wealth and level of income, with - I suppose - the idea that if you are wealthy, you can at least pay an advisor that is sophisticated. In Europe, this is not the case. As an illustration, my group is running a $7 billion portfolio in alternatives, but we are legally considered as non-sophisticated in Switzerland and therefore not able to participate in hedge fund private placement discussions locally. Move to London, and then we are sophisticated investors. Isn't that stupid? Now, if you label the same fund UCITS, then anybody can buy it, whatever the content.

In my opinion, UCITS should go back to their roots and cover basic long-only plain-vanilla mutual funds. Then there should be another category (possibly more than one) for more sophisticated investors and products such as HF, PE, etc.

An interesting idea might be to make the alternative product seller/product manager liable for losses if the product has been mis-sold or the investor was not able to fully understand the risks. That would severely limit asset gathering from the masses, but would ensure the protection of the retail investors.

David McCarthy: I think one needs to focus on which risks regulators should address. I'm sure we all agree that: markets should be fair; counterparties, clearing houses, and exchanges need to have sufficient resources to meet obligations; and firms must report accurate pricing to their investors. With insider trading scandals, failures of brokers, and manager frauds, one can make a case that the implementation of current regulations needs significant improvement.

But, I have always been uncomfortable with regulating the kinds of investors who can access various investment products. Francois mentions limiting UCITS (and I would assume, by extension, mutual funds in the U.S.) to plain-

vanilla long-only strategies. Recall, though, that natural resource equities and EM equities both fell by more than 60% during 2008. Why is it OK for unsophisticated investors to buy mutual funds/UCITS in these areas, but not have access to liquid long/short funds?

I think it is interesting, and counterintuitive, that many strategies embraced by "sophisticated" investors because of their risk characteristics are off-limits to retail investors. I don't think that is a good idea or a productive regulatory focus.

I realize that I am talking my own bias, but I can't imagine making a long-only equity investment today without pairing it, in some proportion, with a diversified managed futures investment. While I want long-only equity exposure, the risk on a standalone basis seems too great to me. Frankly, I don't think this concept is too sophisticated for RIA's and many individual investors. And I am heartened by the launch of liquid products in this area. I only hope the regulatory door doesn't shut on them.

Jim Liew: This is a very interesting discussion. I generally agree with David, but would like to extend his idea. Why not combine a typical long/short (value) based manager with a nice medium-term trend-following strategy? Wouldn't it be nice to get some "Tigers" (and Cubs) and combine them with some good "Turtles" to create the "Tiger-Turtle" Fund? Capacity would definitely be there.

In my view, trend-following provides the nice down-side protection needed when the overall market turns over. Exactly when the long/short manager's beta is increasing on the downside and the market is tanking, you've got a reasonably good hedge coming on line. Moreover, some could argue that this is less expensive than buying protective puts.

As for disclosures, I'm of the school of thought that regulators should do what Arthur Levitt did in the mutual fund industry some time ago. That is, to make all disclosures easy to understand for the lay person, i.e., get rid all the legalese/jargon. Unfortunately, I don't think what HF managers do is that difficult to understand. It's just the language they use and the "smoke-screen" they put up that makes it confusing to many.

There is a bit of a contradiction here, since if you really do have alpha, you shouldn't go around disclosing it to everyone. True alpha should be protected at all times. Unfortunately, the consultants and institutional investors have been led to believe in transparency at all costs. This doesn't make any sense to me. How can you have an "edge" if you are telling everyone what it is? The market is very efficient and people will trade your advantage, if it does work. With so many people trading it, the alpha will quickly go away according to Fama.

My question is: Shouldn't a fiduciary responsibility include keeping quiet and protecting the alpha you're generating for your client? Isn't too much loud-transparency actually a bad thing?

Francois Lhabitant: I agree with David. In fact, I would personally NEVER invest in long-only strategies, as I believe in risk controls and being able to combine long and short positions is a way to lower risk. The issue is that many regulators, particularly in Europe, do not have the same opinion. They are fine if investors lose 60% in a long-only mutual fund, but find it unacceptable if a hedge fund is down 10%. Plus they see long and shorts as leverage rather than as risk reduction.

Now, in my opinion, regulators should primarily ensure that small investors are protected. The difficulty is that well run hedge funds are actually safer than many long-only mutual funds, but they are also more complex to understand, analyze and due diligence, and less regulated. Opening the door to all investors - which is desirable in theory - would allow all the crooks to sell their funds to retail investors. Not opening it will make retail investor portfolios worse. Regulating hedge funds massively (like they do in Europe) will kill the goose with the golden eggs. Just requiring a registration and some forms to be filled annually will not be effective - just remember Madoff.

Thomas Meyer: David's comments really show the divide in philosophies. I think that how people think about this question depends on how relevant the retail market is for them. If retail investors come in directly, regulators have no choice but to standardize the investment vehicles and impose restrictions, in other words, to a large degree take the "alternative" out of these assets. My bias is clearly private equity where the attempts to make this asset class liquid and to attract retail investors have arguably not been met with great success. It is not about denying access to this asset class to retail investors, but about making sure that they involve intermediaries who know what they are doing and who can properly monitor and assess the development of the funds over several years. Regulating differently according to type of investors does not strike me as radical as you see comparable approaches in many strands of life.

David McCarthy: I think Tom hits on an important point here--the private equity model. I've often thought that there are two equally problematic aspects of typical hedge fund investing. The first relates to hedge funds investing in liquid securities (e.g., most long/short strategies, managed futures) and offering something like quarterly (or worse) liquidity. These strategies could certainly be offered with daily liquidity. The second relates to other hedge fund strategies (e.g. some RV strategies) often also offering quarterly liquidity. As we learned in 1994, 1998, 2008, many of these strategies require far less liquid terms--more like private equity terms.

My best guess is that we will see the hedge fund industry break down on liquidity lines over the next 5 to 10 years. The liquid strategies will be increasingly offered in UCITS/mutual fund form, and therefore be accessible to retail investors. And the (actually) less liquid strategies will be offered in far less liquid form than they are today and will generally be available only to "sophisticated" or institutional investors.

I think Tom correctly notes the importance of the regulatory discussion in all of this. If the regulators issue rules that substantively diminish the "alternative" characteristic of the liquid alternative products, then you can ignore everything above. But it is not clear that they will. And, in the meantime, new liquid alternative products are announced almost every day and asset growth in the area has been quite remarkable.

How is the industry going to restore its reputation for impeccable risk management and financial rectitude? It seems to me that many of our key players are losing their focus on the things that have made us model citizens in the otherwise sleazy world of financial intermediation. MF Global? Peregrine? LIBOR manipulation? Good grief.

Keith Black: As a former floor trader, I was always trained that the counterparty risk in exchange-traded products was almost non-existent, especially when compared to OTC products. My faith in this assumption has now been shattered. Now, investors need to be concerned about asset segregation and the specific custody arrangement, which can vary by broker, FCM, country and legal arrangement.

It seems that the MF Global incident was related to the low risk-free rates in the U.S., as the FCM was reaching for yield by investing in European sovereign debt. Investors need to understand the business model of their service providers, as what appears to be a low-fee service may give the service provider the perverse incentive to take risk or cut corners in other areas.

Biographies

Mark J.P. Anson, PhD, CFA, CAIA, is a Managing Partner and Chief Investment Officer at Oak Hill Investment Management, LP. Dr. Anson previously served as President and Executive Director of Investment Services at Nuveen Investments, Chief Executive Officer at Hermes Pension Management Limited, and Chief Investment Officer at California Public Employees' Retirement System. He has published over 100 research articles in professional journals, has won two "Best Paper" awards, is the author of six financial textbooks, and sits on the editorial boards of several financial journals.

Keith H. Black, PhD, CFA, CAIA, has over 20 years of financial market experience, serving approximately half of that time as an academic and half as a trader and consultant to institutional investors. He currently serves as Director of Curriculum for the CAIA Association. During his most recent role at Ennis Knupp + Associates, he advised foundations, endowments, and pension funds on their asset allocation and manager selection strategies in hedge funds, commodities, and managed futures. Dr. Black previously served as an assistant professor and senior lecturer at the Illinois Institute of Technology's Stuart School of Business. He was a member of the inaugural class of the Chartered Alternative Investment Analyst (CAIA) candidates.

Galen Burghardt, PhD, is Senior Director of Research for Newedge USA, LLC, a joint venture between Calyon and Societe Generale. He is the lead author of *The Treasury Bond Basis and The Eurodollar Futures and Options Handbook*, which are standard texts for users of financial futures. His latest book, written with Brian Walls, is *Managed Futures for Institutional Investors: Analysis and Portfolio Construction* (Bloomberg/Wiley, 2011). His PhD in economics is from the University of Washington in Seattle.

Donald R. Chambers, PhD, CAIA, is Associate Director of the Level I Curriculum at CAIA and is the Walter E. Hanson KPMG Professor of Finance at Lafayette College in Easton, Pennsylvania. He has published 50 articles and numerous books on investments, corporate finance, and risk management. He received a PhD in finance from the University of North Carolina at Chapel Hill and a BS in accounting from SUNY–Binghamton. Dr. Chambers earned the CAIA designation in September 2003 as a member of the first group of candidates to complete the requirements.

Francois-Serge Lhabitant, PhD, is currently the CEO and CIO of Kedge Capital, where he runs more than $6.5 billion invested in hedge fund strategies. He was formerly a member of senior management at Union Bancaire Priv´ee, where he was in charge of quantitative risk management and subsequently of quantitative analysis for alternative portfolios. Prior to this, Dr. Lhabitant was a Director at UBS/Global Asset Management, in charge of building quantitative models for portfolio management and hedge funds. On the academic side, he is currently a professor of finance at the EDHEC Business School (France) and a visiting professor at the Hong Kong University of Science and Technology.

Jim Liew, PhD, is the CEO of JKL Capital Management, LLC. He is also an adjunct professor of finance at New York University Stern School of Business, where he teaches the course Hedge Fund Strategies. Dr. Liew also taught the course Statistical Arbitrage at Columbia, Baruch, and Johns Hopkins. Previously, he worked at a large macro quant fund and at an ultrahigh-frequency statistical arbitrage fund, where he built, backtested, and implemented systematic investment strategies. Dr. Liew obtained his PhD in finance from Columbia Business School. He currently serves on the Editorial Advisory Board of the *Journal of Portfolio Management*.

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David F. McCarthy, PhD, is the Principal of D.F. McCarthy LLC, a consulting and advisory firm. In 2002, he co-founded Martello Investment Management, LP, a specialist fund of funds and advisory firm concentrating on absolute return hedge fund strategies, including global macro and commodity trading adviser (CTA) strategies. Dr. McCarthy is a faculty member of Fordham University in New York and University College Cork in Ireland. He is a contributor to the Greenwich Roundtable "*Best Practices in Hedge Fund Investing*" series, and is the author of a number of academic articles on managed futures. He holds a PhD from University College Dublin, an MBA from Stanford University, and a BA from the University of New Hampshire.

Thomas Meyer is a co-founder of LDS Partners, an advisory firm providing solutions for liquidity, portfolio, and risk management for institutional investors in private equity funds. After 12 years in the German Air Force, Thomas worked for the German insurance group Allianz AG in corporate finance and as the regional chief financial officer of Allianz Asia Pacific in Singapore. He was responsible for the creation of the risk management function at the European Investment Fund. He is a Shimomura Fellow of the Development Bank of Japan and was a visiting researcher at Hitotsubashi University in Tokyo and a director of the European Private Equity and Venture Capital Association. Dr. Meyer co-authored a series of books (e.g., *Beyond the J-Curve* and *J-Curve Exposure*)