LGT Capital Partners
your partner for alternative investments

(R)evolution of hedge fund strategies

“Every truth has two sides; it is as well to look at both, before we commit ourselves to either.”

Aesop

Cover picture: Science laboratory test tubes, Depositphotos

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Introduction

Can alternative risk premia replace alpha?

The emergence of alternative risk premia (ARP) strategies has posed an unprecedented challenge to hedge funds. However, like any new potentially disruptive technology, ARP strategies come with their own risks and limitations, and they are yet to be fully tested over a market cycle. The rapid growth in investor demand for more liquid, transparent, diversifying and cost-efficient strategies has been met by a proliferation of ARP products from asset managers and investment banks alike. This growth has come about due to the confluence of different forces, such as better technology, increased regulation and lower forward-looking return expectations.

The emergence of ARP strategies is unquestionably positive for investors, as they create a broader toolbox which allows them to sharpen their focus on alpha, take more conscious and granular decisions on portfolio construction and build more cost-efficient portfolios.

In these developments, we see an analogy to the pharmaceutical industry, where we witnessed the emergence of generic drug providers. They are able to produce common drugs going off patent in a more cost efficient way than the large pharmaceutical companies bearing high R&D expenses. ARP strategies can be seen as providers of generic return streams, while hedge funds focus on the much harder goal of extracting idiosyncratic alpha from the markets, which requires deep resources and continuous research.

In this paper, we outline the industry developments, challenges and the framework when integrating hedge funds and ARP strategies within our own investment portfolios.

Laboratory work place, Getty Images

Alternative risk premia: a challenge for alpha

Alpha and its (new) uncomfortable neighbors – theory

In financial jargon, "risk premium" refers to the return above the risk-free rate (cash) that compensates an investor for taking a certain level of investment risk. The most common and straightforward example is the "equity risk premium" – the return an investor earns over time for being exposed to equity market risk. In addition to such classical or traditional risk premia, academic research has more recently decomposed and attributed further components of investment returns and labeled these "alternative risk premia" (ARP). For listed equities, examples of these include the value, size or momentum factors.

The ARP universe is heterogeneous and can be classified along two main categories:

- **Skewness risk premia:** these are considered to be the most genuine or pure form of risk premia, where investors are rewarded for taking downside risk, or in other words, being invested in a negatively skewed strategy. Negative skew means that the strategy has frequent small positive returns combined with less frequent but large negative returns. A good example ot this is the reinsurance industry or a long exposure to equities, as we well know from negative "fat tail" events. Within ARP, carry and short volatility strategies are examples of skewness risk premia.
- **Market anomalies:** these are strategies with a positive Sharpe ratio that exploit some market anomaly arising from investors' behavioral biases. The most well-known example of this is momentum, where investors herding and self-reinforcing effects are at work. Defensive or tail-protection strategies are another example where investor risk aversion drives asset prices beyond fundamentals.

The largely unchanged and widely accepted definition of a portfolio return for several decades has been that the return is derived from three main sources: the risk-free rate, traditional risk premia and alpha. Alpha has always been the most difficult component to access. The prevailing view has been that the amount of alpha in financial markets is finite, so for every winner, there must be a loser. It has also been by far the most expensive source of return, both in terms of explicit costs and resource constraints. With the emergence of ARP strategies, the return of a portfolio can now be decomposed along traditional and alternative risk premia. In simple terms:

BEFORE: $R = rf + b\ TRP + \alpha$ (1)

NOW: $R = rf + b\ TRP + c\ ARP + \alpha$ (2)

R = Portfolio return
rf = Risk-free rate
TRP = Traditional risk premia, b = loading
ARP = Alternative risk premia, c = loading
α = Alpha, unexplained and idiosyncratic risk source

In the revised equation (2), the portfolio return has not increased, but the component factors contributing to the return have. As portfolio returns have become further scrutinized, and more ARP factors have been defined and articulated, a portion of the returns previously considered as alpha have now been reclassified as ARP. As a greater proportion of the return becomes attributed to ARP, it naturally changes the relative importance, role and contribution from alpha. In the above equation (2), ARP are becoming the bigger, louder and more uncomfortable alpha neighbors.

Hedge funds and their (new) uncomfortable peers – the real world

The role of ARP in the above equation (2) has posed a serious challenge to hedge funds in the real world. Like hedge funds, ARP strategies offer diversification to traditional asset classes and appear to provide additional sources of equivalent net performance, but at generally lower fees. This challenge has been reinforced by the disappointing performance of hedge funds in recent years.

As a consequence, ARP strategies have become more and more popular among investors looking for strong-performing and uncorrelated strategies. ARP strategies are threatening the role of hedge funds in institutional portfolios globally, and in a certain sense, have taken over the role (and promise) hedge funds represented 20 years ago. ARP strategies are perceived as the latest, state-of-the-art financial innovation, a "must" for every portfolio with the potential to deliver positive, uncorrelated returns, but in a more cost effective and liquid manner than hedge funds.

We see four main players in the current ARP industry:

- **Investment banks** – offer a variety of single ARP strategies within a matrix along two dimensions: ARP and asset classes. The approach is often "a la carte," with a high degree of flexibility and customization with low (or no) investment management fees. However, transaction costs are difficult to assess due to the complex, and to a certain extent, opaque execution landscape across various investment banking desks
- **Global asset managers** – since ARP investing has become mainstream, many managers have built solutions in this space by relying on their brand and distribution capabilities and leveraging different areas of their diversified platforms
- **Hedge funds** – it is increasingly common for managers with a history and tradition in the systematic space, such as CTAs, to offer ARP strategies that are complimentary to their flagship offerings. They leverage their quantitative heritage and adopt the ARP framework, turning a threat into an opportunity
- **Specialized teams** – dedicated teams, either independent or embedded within a larger platform, producing only ARP strategies. Usually these players have a longer history (>5 years) than the other providers

Signs of a maturing industry and increasing demand

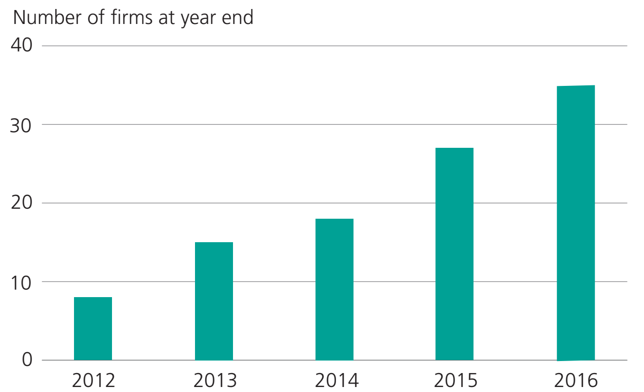
Emergence of multi-manager offerings ("ARP FoF")

Some ARP products reaching capacity constraints

Publication of ARP benchmarks,
e.g. Eurekahedge Multi-Factor Risk Premia Index

Source: LGT Capital Partners

Firms providing multi-premia strategies



Source: bfinance August 2017, numbers include global asset managers and systematic hedge fund managers

Alternative risk premia: the challenges of a new paradigm

Investors' euphoria and expectations for ARP strategies are at lofty levels, are they the panacea for institutional portfolios?

As a relatively new field in the investment landscape, there are several challenges that investors should be aware of:

- **Allocation among different risk premia.** ARP strategies should have a positive expected return over time, but this does not mean that returns are positive all of the time. Actually, on a year-by-year basis, the performance of different ARP vary significantly, as we can see from the below heat map of equity risk premia.
- **Portfolio construction.** One way to deal with the variable returns of the different risk premia is to take an agnostic approach by constructing portfolios using an equal risk approach. The question arises as to which risk measure is most appropriate. One candidate would be volatility, but as we have seen above, an important category of risk premia encompasses strategies with negative skew. Combining two strategies with a given volatility leads to a portfolio volatility that is lower, or in the worst case, equal to the sum of the two assets' volatility. However, skewness behaves differently and this could lead to portfolios with a significant negative skewness, which could hurt in a market crisis, exacerbating losses elsewhere in a portfolio.
- **Orthogonality.** Despite the raison d'être for each ARP is distinct, they may still be correlated positively or negatively for structural or cyclical reasons. One such example is the correlation that might arise between the "size" and "low volatility" risk premia, due to the fact that stocks of large companies tend to be less volatile than the stocks of small companies. Investors should seek to include in their portfolio ARP that are as orthogonal as possible in order to avoid overlaps and cross-correlation effects. Furthermore, investors should also be aware that orthogonality is a property that might disappear over the short term in market stress situations. This was the case, for instance, in August 2007, as value and momentum re-correlated during the so-called "quant meltdown".

Large performance dispersion between different ARPs over time

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
25.5%	6.2%	-3.3%	66.9%	31.1%	32.1%	39.1%	10.1%	-40.9%	65.7%	25.3%	-2.2%	24.0%	29.8%	11.5%	16.1%	-3.0%
23.9%	-1.7%	-6.8%	40.6%	30.4%	31.5%	34.3%	2.7%	-41.4%	51.6%	22.2%	-3.2%	24.0%	28.4%	10.8%	16.1%	-7.1%
9.5%	-2.0%	-18.7%	27.5%	30.1%	27.9%	31.5%	1.8%	-43.6%	42.7%	19.2%	-8.1%	18.7%	21.0%	8.6%	15.7%	-7.2%
6.2%	-7.5%	-18.9%	23.9%	29.5%	26.5%	25.5%	-1.0%	-49.0%	31.6%	17.9%	-9.1%	17.3%	19.8%	8.1%	12.3%	-7.7%
-2.2%	-9.1%	-26.0%	19.9%	28.7%	26.1%	24.1%	-4.4%	-53.9%	22.3%	11.1%	-25.0%	15.8%	17.0%	6.8%	8.2%	-12.1%
-2.3%	-15.5%	-30.7%	15.3%	12.2%	26.1%	19.6%	-9.0%	-63.6%	18.8%	7.3%	-35.3%	10.7%	13.9%	5.2%	-1.5%	-14.8%

Value Size Quality Low Beta Momentum Market

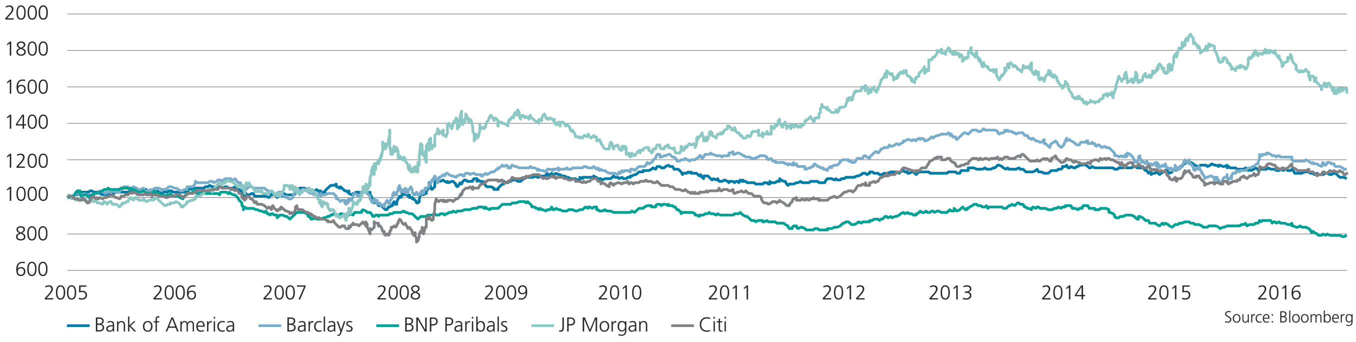
Source: Lyxor research paper Lyxor Asset Management, Richard and Roncalli (2015)

- **Return dispersion.** The architecture of many ARP products is similar, with diversification across different ARP, combined with an equal risk budgeting approach for portfolio construction. However, we observe a large dispersion among results. There are several reasons that might explain the dispersion: hidden costs, differences in implementation efficiency, premia selection and categorization. Contrary to a first, naïve assumption, ARP are not generic. Different ways of capturing risk premia and parameter sensitivity lead to different risk/return streams.
- **Curve-fitted.** Most current ARP offerings have been launched in the last three years, and a track record of five years is already considered "long." In order to offer a longer historical perspective, ARP providers show pro-forma track records over several years. How reliable are these pro-forma track records? A recent analysis showed that the risk of data mining or over-fitting is particularly high, as a large majority of rules-based strategies offered by investment banks show a deterioration between back-tested and live performance periods ("*Quantifying backtest overfitting in alternative beta strategies*", Antti Suhonen, Matthias Lennkh, Fabrice Perez, May 2016)
- **Crowding.** The proliferation of ARP strategies has meant there are now a large number of similar strategies attempting to extract the same risk premia systematically in liquid markets. While this is efficacious in calm markets, the crowding in these positions can be dangerous if market conditions change quickly. We believe this highlights the need to carefully consider the underlying premia driving an ARP strategy's returns and the need to remain diversified across strategies.
- **Pricing.** The investors' intuition is that ARP strategies should be definitely less expensive than hedge funds strategies. While this is generally true, pricing can vary substantially, depending on the background of the ARP provider. We see a dispersion that can go from, say, "enhanced" ETF fees (lower end, 40 bps) to hedge funds "light" fees (higher end, 130 bps). Additionally, investors should carefully assess the impact of costs related to trading and execution. These can be significant, depending on the complexity of the strategies, trading frequency and number of counterparties used.
- **Unproven:** Another issue with limited live track records is that most of the strategies are relatively unproven and have been managed in a benign, low-volatility market environment. It is likely that in a shift in regimes or a market crash, where cross correlations tend to increase, a number of these systematic strategies would underperform or fail to adapt to the conditions.

Last, but not least, the topic of the **role of ARP in the portfolio is central.** One of the main purposes for including ARP in an existing portfolio is the expected diversification effect. However, as a "new" element within the return landscape, the question arises over how to best integrate ARP within the overall asset allocation framework. ARP strategies mostly offer exposure across existing asset classes, so they are not easily attributable to an existing, classical "asset allocation bucket." An allocation within the alternative portion would also lead to the question how to integrate ARP with an existing hedge fund allocation, in a way that minimizes portfolio redudancy.

In the next two sections, we explore this integration topic and determine whether and how an ARP and hedge fund allocation can coexist in a portfolio.

Dispersion of US value risk premia



Source: Bloomberg

Intermezzo: alpha reconsidered

As we discussed, ARP strategies pose a serious threat to the role of hedge funds for providing diversified absolute returns. From an investor's point of view, however, the recent developments are an enhancement providing a deeper and broader toolbox from which to create portfolios. Investors can take more conscious and transparent decisions and construct more cost-efficient portfolios.

As a principal investor, there are several reasons why we believe hedge funds should continue to have a role in most portfolios going forward:

- **Alpha (still) exists.** As indicated by equations (1) and (2), alpha can be considered as the portion of the returns that cannot be explained by systematic factors. It acts as a sort of "known unknown." It is true that a greater proportion of return components are being defined and attributed to ARP factors, but this does not necessarily invalidate or eliminate the overall alpha that an idiosyncratic active manager might generate. ARP strategies are helping to map the returns landscape, but we believe the opportunity for investment managers to generate alpha remains, i.e. there is place for both in a portfolio. ARP strategies cannot completely substitute "true alpha." In particular, we have observed that ARP strategies are systematically harvesting the portion of "alpha" that was more easily identifiable and more structural in nature. The more idiosyncratic portion of alpha remains difficult to access using ARP strategies alone. Furthermore, we believe that skillful managers should be able to outperform across various market conditions and that true alpha strategies should be broadly uncorrelated to other asset classes and factors.
- **ARP sharpen the focus on alpha.** Historically, hedge funds were a tool designed to extract returns that were absolute and uncorrelated to markets. These returns always had a component that was at least partly explained by one of the above mentioned types of ARP, negatively skewed or market anomalies ARP. Improvements in transparency, technology and understanding now make it possible to separate these. The emergence of ARP strategies within the investment industry allows investors to measure, in a more systematic way, the contribution of ARP to hedge funds returns: ARP are in this respect a diagnostic tool allowing investors to separate ARP and true alpha. For the investor, this is a tremendous benefit, because they can improve their focus and search for alpha. They can also gain a better understanding and judgment as to the efficacy of a manager and the level of fees paid for alpha.
- **Some ARP can be better extracted through hedge funds.** While there is widespread consensus that traditional risk premia can be captured in a passive way, the same is not true for alternative risk premia where different approaches can coexist. For example carry, value and momentum are theoretically well-defined, but there are many choices for implementing them. A more active or discretionary approach might even be preferred in certain cases, such as in value or carry type of strategies. Furthermore, some hedge fund managers can be extremely good at timing exposures to different ARP, while ARP providers typically prefer more static exposure.

Framework for integrating ARP and hedge fund strategies

We view ARP and hedge fund strategies as two sides of the same coin. They both seek to achieve diversification of traditional risk premia by providing access to diversifying return streams, which are complementary in nature. In this respect, we believe there is a need for both.

Despite being closely related to each other, the hedge fund and ARP allocations should be both robust and viable on a standalone basis. Both components should be evaluated on their relative investment merits/drawbacks, diversification characteristics and contribution to the portfolio's return.

Assuming two parallel ARP and hedge funds portfolios leads to the following two sets of questions:

- **Question 1** – Within a given liquid alternatives budget, how much should be allocated to both?
- **Question 2** – How to make sure that both portfolios are efficiently implemented?

Question 1 – Allocation split

In our view, this question cannot be answered solely on a quantitative basis, as investors need to base their decision on their fundamental convictions. In our experience – based on both managing our own proprietary portfolio and discussing such portfolios with our clients – investors can evaluate their investment beliefs and constraints using the criteria shown in the chart below. They can help to determine whether a bias towards either fedge fund or ARP strategies might be more suitable.

Using the framework below as a guide, certain kinds of investors may lean towards having a higher allocation to ARP strategies. This includes those who face signficant regulatory pressures, have a high sensitivity to fees or liquidity constraints, or those with limited resources for identifying, monitoring and educating decision-makers about hedge fund investments. On the other hand, investors with the necessary conviction, resources, sophistication, liquidity and fee budgets are likely to favor a higher allocation to hedge funds.

Question 2 – Efficency

Efficient implementation and integration of the portfolios means answering the following two questions:

- **Question 2a** – Factor analysis
  How to make sure that both portfolios are focused on ARP and alpha respectively and that the potential overlap is measurable and limited?
- **Question 2b** – Implementation
  How to implement both portfolios?

Question 2a – Factor analysis

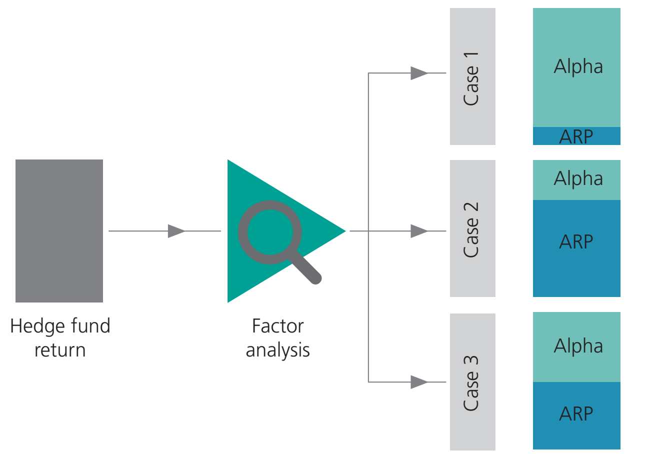
A factor analysis based on ARP provides a framework that enables an investor to understand hedge funds returns in a much more granular and transparent way, by separating alpha and ARP contributions. We can distinguish between following three main outcomes:

Split: fundamental considerations driving the decision

Hedge funds		ARP
Yes	Believe that alpha can be generated	No
Yes	Ability to identify and access alpha strategies	No
Low	Fee constraints	High
Low	Liquidity constraints	High
Low	Governance/resource constraints	High
Low	Favor more systematic strategies	High

Source: LGT Capital Partners

Factor analysis based on ARP framework



Source: LGT Capital Partners

Case 1: Significant contribution to hedge fund returns from alpha: ideal case

Case 2: Significant contribution to hedge funds return from alternative risk premia – two options:
- **2a:** Replace this type of hedge fund exposure with cost efficient equivalent ARP strategies
- **2b:** Keep the exposure if it is not "sold" as alpha, i.e. the pricing is adequate

Case 3: Balanced presence of both risk premia and alpha:
- **3a:** If the ARP exposure is necessary for extracting alpha ("you can't get rid of the ARP exposure"), maintain this exposure and monitor the ARP contribution to returns
- **3b:** If the ARP exposure is not necessary for alpha generation, replace the hedge fund manager with a "pure" alpha strategy and/or an ARP strategy

In short, hedge fund managers do not provide pure access to alpha, as ARP are a fundamental component of hedge fund returns. This component can either be replaced, as outlined above in 2a and 3b, or it can be accepted, if it is priced appropriately (2b) or is necessary for alpha generation (3a).

A well-articulated ARP factor-analysis framework and a deep qualitative understanding are a strong foundation for assessing a hedge fund manager's ability to generate alpha.

Having the ability to separate ARP from alpha also allows for pricing tension that is far more focused on the capacity and alpha generation of managers and strategies than was possible ten years ago.

The emergence of ARP strategies has highlighted the inefficiency of allocating to "average" hedge fund managers – i.e. to managers that command hedge funds fees but have a mediocre alpha generation or significant ARP exposure. This can be illustrated by the numerical example in the table at the bottom of this page: the average hedge fund delivers the lowest net excess return and the highest fee/net return ratio.

An investor might consider following three options:
- **Option 1:** invest in a true alpha manager. This would lead to the highest net return, as well as the highest absolute fees paid, but a fee ratio that is more equitable. The scarcity and value of alpha means that the best hedge funds will always command a premium in terms of pricing. This is acceptable, in our view, if alpha generation is strong.
- **Option 2:** invest in ARP strategies. The net return will be higher than what is achieved with an average hedge fund manager and the fee/return ratio is the lowest.
- **Option 3:** combine ARP and hedge fund strategies. This option allows for a higher net return than with an ARP-only solution, but at lower fees than Option 1.

Question 2b – Implementation

From an investor's perspective, there are two options for accessing hedge funds and ARP strategies: invest in external managers ("buy") or implement directly ("make"). This decision depends on many factors (such as resources, governance, past experience, etc.) but it is worth considering all the options at first, without limiting the choices.

Focus on alpha and ARP contributions allows to strive for favorable cost/return ratios

	Investment	Fees		Contribution		Gross Excess Return	Net Excess Return	Fee load	Fees/ Net Excess Return
		Mgmt Fee	Perf Fee	ARP	Alpha				
Starting point	Average HF	1.50%	20.0%	1.50%	1.00%	2.5%	0.8%	1.70%	2.13
Option 1	High Quality HF (HQHF)	1.50%	20.0%	1.50%	3.00%	4.5%	2.4%	2.10%	0.88
Option 2	ARP	0.80%	0.0%	2.00%	0.25%	2.3%	1.5%	0.80%	0.55
Option 3	50% ARP+50% HQHF	1.15%	10.0%	1.75%	1.63%	3.4%	2.0%	1.37%	0.69

Source: LGT Capital Partners

LGT CP's beliefs and approach

In this section, we explain the choices LGT CP has taken within the framework described in the previous section.

Question 1 – Allocation split

LGT CP's particular beliefs and approach (see the criteria outlined in table on page 10) has led our firm to tilt our portfolio more decisively towards hedge fund strategies. The key factors that influence this decision are:

- Fees – as a principal investor, we are always focused on keeping costs to a minimum, as they are a drag on portfolio performance. However, we are free to make investment decisions that are focused on net returns, and the value of that return stream, rather than being constrained by explicit fee budgets
- Liquidity – we do not have any commercial or regulatory limitations on the liquidity of our investments. We can therefore tolerate less liquid investments if we are adequately compensated
- Governance/resources – we have a large, experienced team and investment committee focused on identifying alpha, with a proven ability to analyze complex strategies
- Value of alpha – we believe that in an environment of expensive TRP and lower forward-looking return expectations, a greater focus on idiosyncratic returns is more important

On this basis, approximately 75% of our current allocation is to external hedge fund strategies and 25% to ARP strategies. We made our first small allocation to ARP back in 2009 with an allocation to test our two years of prior research. In 2015, we conducted another research project, which resulted in a reconfiguration of the ARP portfolio construction process. This was concluded in 2016 and resulted in an increase of the ARP allocation to the current level of about 25% of the hedge fund portfolio. This increase was due to our growing conviction about the ability of these strategies to deliver absolute, uncorrelated returns over time, and in a manner that is complimentary to both TRP and hedge funds.

This allocation split is reviewed periodically and will continue to evolve over time as the relative convictions change.

The rationale outlined above is highly idiosyncratic, and we understand that many of our clients do not have the same level of governance, fee and liquidity constraints.

Question 2a – Factor analysis

With roughly ten thousand hedge funds globally, it is critically important to have the resources to identify the subset of managers that can deliver alpha reliably. We illustrate the results of an ARP factor analysis conducted on different hedge fund strategies in the tables to the right, where we have clustered hedge fund managers according to the relevance of ARP/alpha in their excess returns.

The ability to analyze hedge fund returns and to "measure" the relevance of alpha in their returns is key when constructing hedge fund and ARP portfolios. An investor should keep a sharp focus on alpha and be able to monitor the ARP components.

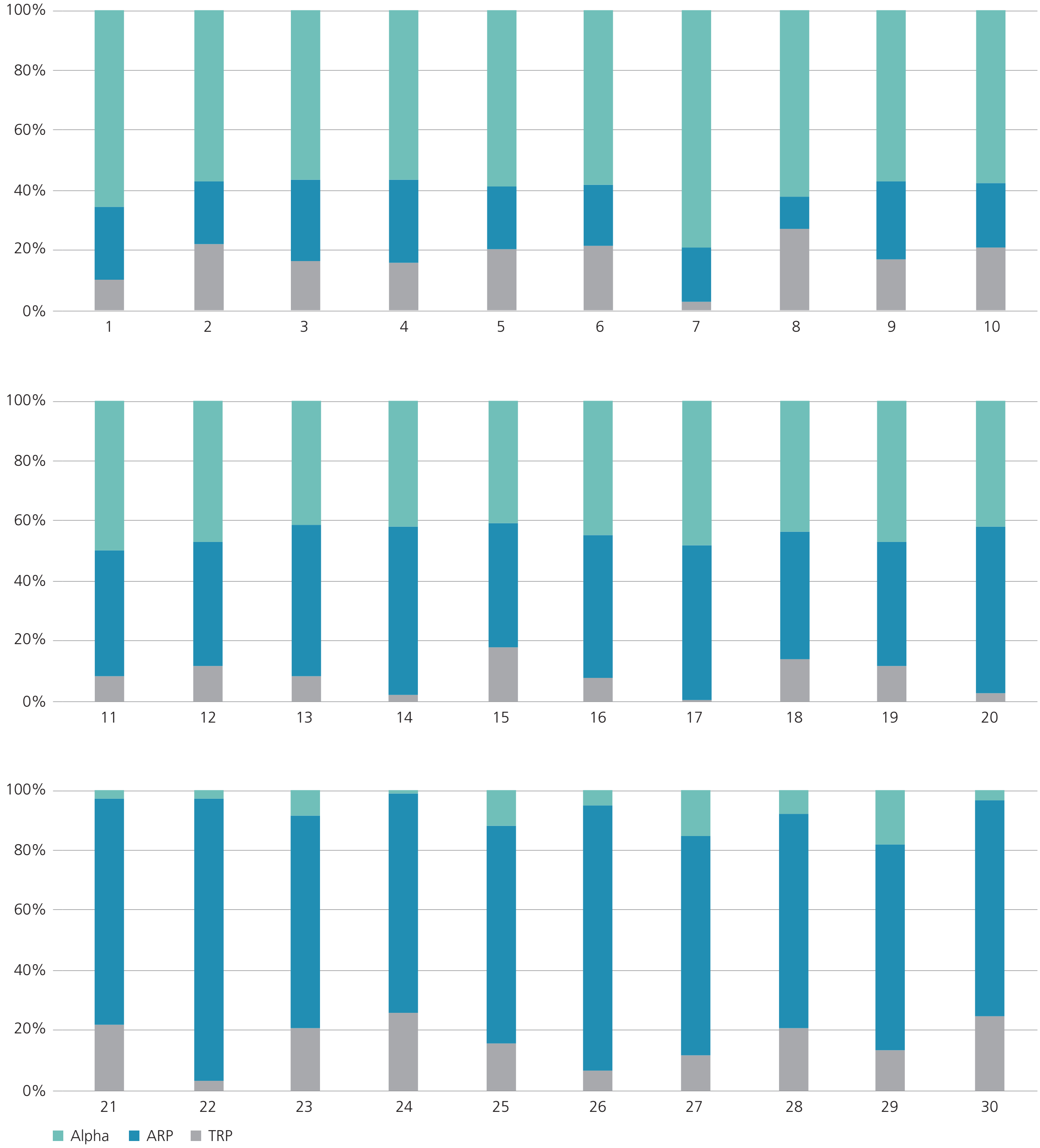
Question 2b – Implementation

In terms of implementation, we utilise a blend of approaches:

- **Internal ARP strategies:** we have developed our own, direct and proprietary investment approach to alternative style premia using an internal team
- **External ARP strategies:** for select client portfolios, we use non-investment bank strategies that have demonstrated track records in both research and implementation. The selection is focused on profiles that complement the internal ARP strategies
- **External hedge fund strategies:** 20 years of experience in selecting external hedge funds strategies, using a global team to implement ideas via our managed account platform

The daily transparency offered by our managed account platform allows the portfolio management team to have an in-depth understanding about the issue of redundancy. Furthermore, portfolio exposures could be enhanced, redundancy further reduced and cost efficiency increased by selecting specific components or sleeves from broader product offerings across both hedge funds and ARP strategies. For example, a bespoke hedge fund mandate could focus on specific idiosyncratic risks or short-volatilty components of a broader ARP strategy. A broad toolbox across the "make/buy" options puts LGT CP in an unique position, when it comes to portfolio construction and allows us to best address clients' specific needs and requirements.

ARP factor analysis on 30 hedge fund managers across different strategies – return breakdown by TRP, ARP and alpha



Source: LGT Capital Partners

Conclusion – a better world for investors

As the alternatives industry has increased in sophistication, it has become clear that at least some of the returns previously accessible only via hedge funds can now be obtained through ARP strategies. Investors are right to seek these out. The new landscape places a strong focus on the ability of hedge funds to generate alpha, and it underscores the difficulty of achieving this over time. Similarly to the pharmaceutical analogy mentioned at the beginning, we see the ARP space coexisting alongside the hedge fund industry, in the same manner that generic drug providers do with large pharmaceutical companies. This makes the world better for investors, who can now construct portfolios in more conscious and cost-efficient way.

At the same time, as a long-term, principal investor, we think a degree of skepticism is healthy when a new idea claims to render established strategies obsolete. We believe the merits and benefits of active strategies, seeking to extract idiosyncratic alpha from the markets, will persist. In other words, hedge fund managers have a future, like sophisticated, very expensive R&D projects in the pharmaceutical industry do. There should be a role for both – hedge funds and ARP strategies – in an investors' portfolio.

The integration of hedge funds with ARP strategies will become a crucial part of portfolio construction. The question how a hedge fund allocation should be best complemented by ARP – and to what extent – requires an individual assessment depending on investors' beliefs and constraints. Addressing this question requires common sense, advanced analytical tools, and most importantly, experience across the liquid alternatives spectrum.

With 20 years of experience in hedge fund investing and 10 years researching and investing in ARP strategies, LGT CP is uniquely positioned to provide insight and assistance on this topic. We welcome all questions or requests for additional information to further the discussion.

LGT Capital Partners Ltd.
Schuetzenstrasse 6
CH-8808 Pfäffikon
Tel. +41 55 415 96 00
Fax +41 55 415 96 99

LGT Capital Partners (USA) Inc.
1133 Avenue of the Americas
New York, NY 10036
Tel. +1 212 336 06 50
Fax +1 212 336 06 99

LGT Capital Partners (Ireland) Ltd.
Third floor
30 Herbert Street
Dublin 2
Tel. +353 1 433 74 20
Fax +353 1 433 74 25

LGT Capital Partners (U.K.) Ltd.
35 Dover Street
London W1S 4NQ
Tel. +44 20 7529 0960
Fax +44 20 7529 0979

LGT European Capital Ltd.
37 Avenue Pierre 1er de Serbie
75008 Paris
Tel. +33 1 40 68 06 66
Fax +33 1 40 68 06 88

LGT Capital Partners (FL) Ltd.
Herrengasse 12
FL-9490 Vaduz
Tel. +423 235 25 25
Fax +423 235 25 00

LGT Capital Partners (Dubai) Limited
Office 7, Level 3, Gate Village 10
Dubai International Financial Centre
P.O. Box 125115
Dubai, United Arab Emirates
Tel. +971 4 401 9900
Fax +971 4 401 9991

LGT Investment Consulting (Beijing) Ltd.
Suite 1516, 15th Floor
China World Tower 1
No. 1 Jianguomenwai Avenue
Chaoyang District
Beijing, P.R. China 100004
Tel. +86 10 6505 82250
Fax +86 10 5737 2627

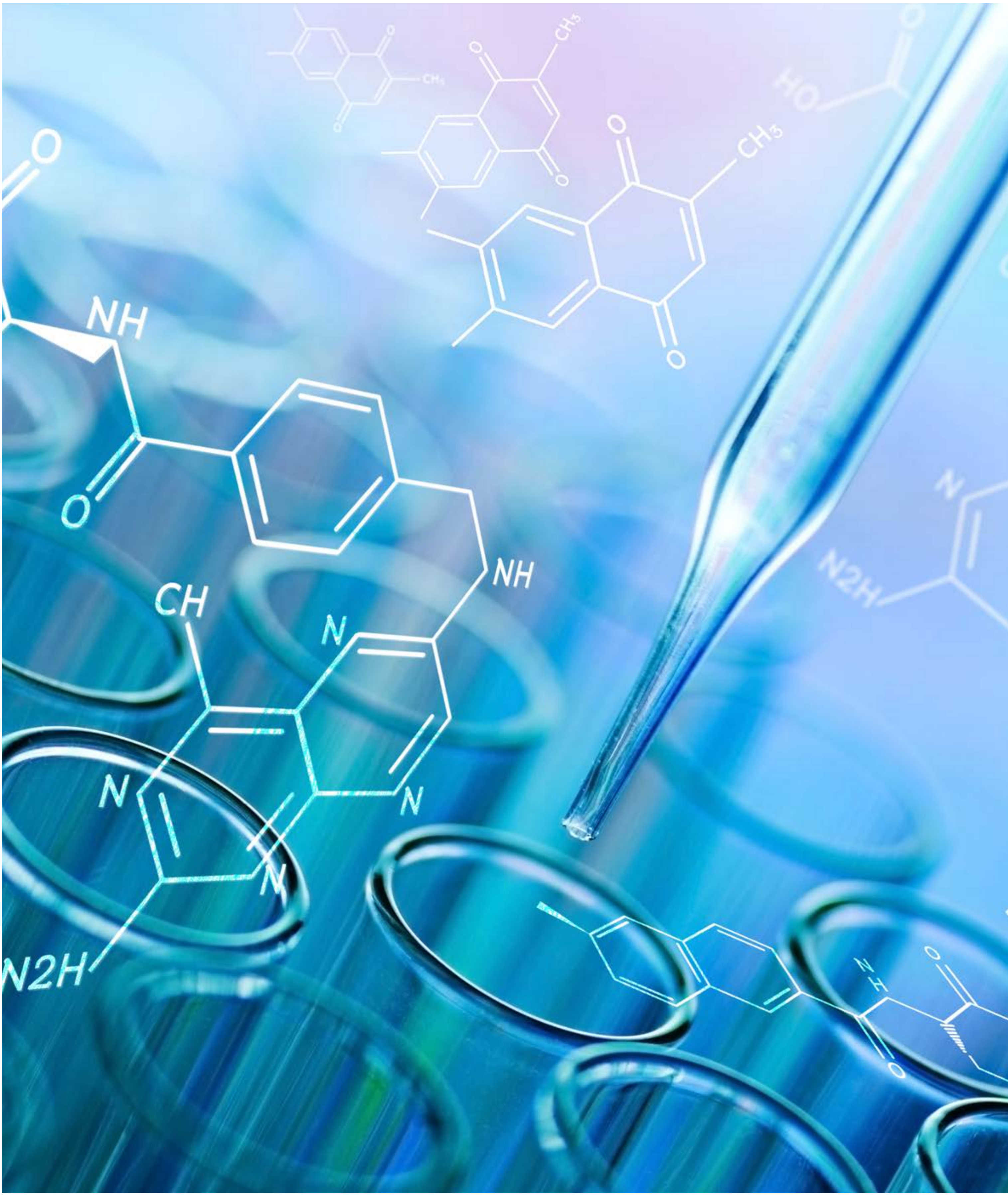
LGT Capital Partners (Asia-Pacific) Ltd.
Suite 4203 Two Exchange Square
8 Connaught Place
P.O. Box 13398
Central Hong Kong, HK
Tel. +852 2522 2900
Fax +852 2522 8002

LGT Capital Partners (Japan) Co., Ltd.
17th Floor Stage Building
2-7-2 Fujimi, Chiyoda-ku
102-0071 Tokyo
Tel. +81 3 6272 6442
Fax +81 3 6272 6447

LGT Capital Partners (Australia) Pty Limited
Level 36 Governor Phillip Tower
1 Farrer Place
Sydney NSW 2000
Tel. +61 2 8823 3301

LGT Capital Partners Ltd.
Schuetzenstrasse 6, CH-8808 Pfaeffikon
Phone +41 55 415 96 00, lgt.cp@lgt.com

www.lgtcp.com



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