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Multi Asset: a solid total portfolio approach for a complex world

Document for the exclusive attention of professional clients, investment services providers and any other professional of the financial industry

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Editorial

An increasing number of institutional investors have adopted a total portfolio approach (TPA) as a response to the weaknesses of more traditional strategic asset allocation (SAA)-based methodologies. We believe the current crisis will reinforce this trend, as it is probably marking a paradigm shift in financial markets. This shift could be as important as the change in US monetary policy brought in by Federal Reserve Chairman Paul Volcker at the beginning of the 1980s, which led to a long period of disinflation, lower interest rates and high asset returns.

The frontiers between monetary and budgetary policies are being blurred and ballooning budget policies are likely to lead to some form of debt monetisation later on. As a result, we are probably entering a new regime, one characterised by a higher probability of inflationary scenarios and increased asset volatility. This means investors need to question long-accepted risk and correlation patterns and calls for agility on their part. Moving to TPA as a holistic, essentially goal-based, total return-oriented and flexible approach is one way to adapt the institutional portfolio construction framework to this new environment. Below we develop three arguments in favour of this method.

Allocating along factors
One well-recognised feature of TPA is its focus on factors rather than the traditional segmentation of the investment universe by asset classes, regions or sectors. As we move into a new financial regime, rather than relying on backward-looking methodologies, identifying the most likely long-term macroeconomic scenarios and their impact on asset prices will instead be key in generating returns. This will justify adopting a factor approach to portfolio construction, with a focus on factors such as growth, inflation and global risk appetite. This will be a useful way to position portfolios strategically in some scenarios with obvious benefits, for instance, for pension funds whose liabilities are linked to inflation. Recent market trends also emphasise the importance of integrating liquidity as a factor in the construction of asset allocation. In addition, there is a large family of other factors that can be used as building blocks to construct a portfolio, or, on an ex-post basis, to analyse its performance. The most widely researched and used of these are in the equity space, for example, value, size, quality, volatility or momentum.

Governance and culture key elements in the success of TPA
Governance and cultural issues will be all the more important in tomorrow's world, where adaptability to changing market circumstances, as well as the capacity to integrate innovative portfolio construction methodologies, will be badly needed. In a recent report, NBIM[1] mentioned that the ability to change their mind was one of the most important qualities of skilled portfolio managers. During the 2008 crisis and the subsequent market recovery, it was those able to turn their portfolios around that stood out. We believe that this will be the case again following the Covid-19-related disruption.

"Implementing fully-fledged TPA can be facilitated by the use of factors as drivers of asset allocation, which will contribute to the use of a common language between different investment professionals."

Fostering cooperation within the investment organisation – a key feature of TPA – will also be important to better understand the new environment. This means organising cognitive and character diversity, as well as complementarity, within the investment team, where all participants will be expected to contribute to a collective decision instead of fighting for their area of expertise. This also relies on the development of a culture of truth, openness, challenge and cooperation that is not always natural in organisations used to segmentation by asset class or area of expertise.

Implementing fully-fledged TPA can be facilitated by the above-mentioned use of factors as drivers of asset allocation, which will contribute to the use of a common language between different investment professionals. Likewise, global investment committee

[1] "Investing with External Managers, The 20 year review", Norges Bank Investment Management, April 2020.

meetings should start with an analysis of the factors currently driving markets, in contrast with the traditional approach, which tends to start from monetary policy down to interest rates and then equity markets. Setting common risk indicators across different assets, as well as bringing transversal topics, can also be an efficient way to break silos and ensure that investment experts cooperate towards a common goal.

Sustainability as a key element of TPA

Another federating element of an investment organisation is the integration of ESG criteria. The potentially huge social impact of the current crisis, the increased awareness of the consequences of climate change and the relevance of governance as a key element of the quality of a company will reinforce the integration of sustainability in institutions' investment approach. A TPA framework appears well suited to the implementation of a sustainable investment approach. There are indeed common features to TPA and sustainability:

"The potentially huge social impact of the current crisis, the increased awareness of the impact of climate change and the relevance of governance as a key element of the quality of a company will reinforce the integration of sustainability in institutions' investment approach."

- ***Holistic:*** *investing along ESG criteria, which is a way of applying a sustainability approach, proceeds from an institution's investment philosophy, within a long-term and holistic approach. ESG represents a broader way for investors to look at their portfolio, potentially leading to the evaluation of a portfolio according to a balanced scorecard, including sustainability targets and the mitigation of long-term risks, in addition to purely financial criteria.*
- ***Long-term:*** *environmental, social and governance risks are often expected to materialise in the long term, prompting institutions applying a sustainable approach to establish long-term scenarios and to reflect on the consequences of their actions over such a horizon. As an illustration, institutions should ask themselves to what extent their investment activities contribute to mitigating the fallout of climate change.*
- ***Total return-oriented:*** *we believe that applying a sustainable investment approach is more suitable to the total return framework that is recommended within TPA. As an example, the sustainability policy defined by an institution may lead to the exclusion of certain securities or significant portfolio biases against certain sectors or types of companies. This will unavoidably lead to sizeable divergences against standard market references that would be difficult to accept within a strongly benchmark-driven investment approach.*

Moving to a sustainability approach may be a long process but institutions should define a roadmap over several years, with intermediate steps and targets, as well as some yardsticks to evaluate the achievement of their objectives.

TPA is a state of mind

We believe that TPA responds to the need – for both asset managers and asset owners – to adopt a new language through which investors sift all asset classes and break down silos that may appear in large organisations. The timing looks appropriate in the current market context. The increasing interest in alternative assets and the integration of ESG in the standard allocation framework are strong additional incentives.

A TPA mindset allows for increased openness to opportunities outside of conventional asset class buckets and for more consistency at the portfolio level by reducing the frontiers between asset classes and organising teams in a more fluid and collaborative way. Difficult challenges lie in the way though. Investors will need to develop new tools to analyse their portfolio along additional angles and apply a multi-dimensional approach to risk analysis and portfolio construction. Moving to TPA also requires important cultural changes, and needs to be defined as a genuine long-term journey with intermediate steps and indicators to measure success in the implementation of change.

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Total portfolio approach: key features

The total portfolio approach (TPA)[2] is a holistic approach to investing that has been adopted by an increasing number of institutional investors as a response to the weaknesses of a more traditional strategic asset allocation (SAA)-based methodology. With its focus on a single investment objective for managing a portfolio of assets as well as the governance and cultural considerations that are attached to it, it has been designed for institutions that need to target specific investment objectives, but we believe there are a number of elements within TPA that correspond quite well to a broad multi-asset investment philosophy and organisation.

"Integrating non-financial criteria in building a portfolio leads to a more holistic process that also fits well within total portfolio thinking."

For this reason, we would like to share our vision of TPA from an asset manager's standpoint, describing how it resonates with our approach to asset allocation. This encompasses three major topics that we address in this document:

- Our long-term belief **in the benefits of a factor approach** to constructing portfolios is particularly well adapted to a TPA framework;
- Our conviction that **integrating non-financial criteria** in building a portfolio leads to a more holistic process that also fits well within total portfolio thinking;
- Governance and cultural principles are emphasised as key elements in the success of a TPA approach within an institution. Even though the challenge is slightly different for an asset manager, we point to certain principles that we believe can contribute to the success of any investment management organisation.

The structure of the paper is as follows:

- **Section 1** presents a **short description of TPA, of the factors justifying the move to TPA, and of its expected benefits** compared to the traditional approach to the construction of asset allocation.
- **Section 2** explains **why a factor approach is particularly adapted to a TPA** framework, provides a list of the factors that can be considered, and discusses the benefits of adopting a factor approach.
- Likewise, **Section 3** discusses how a TPA framework is well adapted to the **integration of a sustainable investment framework**.
- We then address, in **Section 4,** issues related to the **governance implications** of adopting a TPA framework.
- Moving to such a framework is a long journey that carries a number of challenges — **human, organisational or operational** — that we describe in **Section 5**. We also propose recommendations to cope with them.
- We then provide concluding remarks.

1- TPA: a holistic approach to investing

TPA is an investment approach that has been advocated by consultants and adopted in the past decade by several large pensions and sovereign wealth funds as a response to the drawbacks of a traditional approach whereby portfolio construction is segmented

[2]This article has been inspired by discussions held within a working group set up by the Thinking Ahead Institute (TAI) and led by Roger Urwin on the Total Portfolio Approach in which Amundi recently participated. It should be viewed as complementary to a 2019 TAI publication, entitled Total Portfolio Approach (TPA), that explains the benefits and challenges of TPA for a number of institutional investors.

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between different steps, from strategic to tactical asset allocation and security selection, with contributions from portfolio managers generating ideas in 'their' asset class buckets.

1-1- Limits of the traditional approach

First, as it tends to streamline and simplify the investment framework, and slices the investment process into several consecutive optimisation exercises, the traditional approach leads to a sub-optimal final portfolio solution. Active management is left with only a marginal role in return generation, whereas it can actually bring significant benefits. In this sense, there has sometimes been some misinterpretation of the reference paper[3] emphasising the key impact of portfolio structure in explaining the variability of a portfolio return, which does not contradict the potential for significant alpha generation. Active management may indeed encompass a variety of sources, such as systematic exposure to certain factors or types of assets, active allocation, security selection, that should be better accessible in a broader approach to portfolio construction.

There is also the well-documented anchoring bias that can disincentivise portfolio managers from taking risk, generating ideas outside 'their' asset class bucket, and moving away from the benchmark representative of SAA. Strict rebalancing rules to SAA may as well be seen as limiting the scope for active return generation. Moreover, the factor approach to portfolio construction that we recommend within TPA is an efficient way to focus on the key drivers of asset returns and can therefore generate value. From a governance standpoint, one can add that SAA puts a lot of emphasis on boards and investment committees, which are not always well suited to take efficient decisions.

"Rather than considering portfolio components at the asset class level, TPA views them as risk and return streams and takes into account the risk/return features of these components."

The need for a new approach to investing is further justified by the major changes affecting the financial environment linked to:

- The observed limitations of traditional approaches to investing, which tend to be backward-looking and ill-adapted to cope with unexpected changes in asset correlations or risk perceptions.
- Changes in the market structure, with the development of passive investing and of high-frequency trading, with potential impacts on market stability, volatility or trade patterns.
- The impact of regulation, which leads some investors to take investment decisions that would appear inefficient from a traditional risk/return standpoint. Increased capital requirements have also reduced the capacity of financial actors to trade for their own accounts and to provide liquidity to financial markets.

1-2- What is TPA?

TPA has developed in this context. It is usually characterised by the following features:

- **TPA starts with goals that are clearly stated, and these goals are a continuous focus that is shared among all teams**. Different return and income streams all combine to concur to one single objective. In fact, rather than considering portfolio components at the level of asset classes, TPA views them as risk and return streams and takes into account the risk/return features of these components. A factor approach to investing is therefore better suited to TPA than the traditional asset-class-based approach.
- There is one joined-up process whereby **all investment opportunities compete for capital at the fund level**, but only the best ideas actually get into the portfolio. Each investment opportunity is therefore assessed to determine how it fits into the overall

[3] "Determinants of Portfolio Performance," by Gary P. Brinson, Randolph Hood, and Gilbert L. Beebower, Financial Analysts Journal, July/August 1986.

portfolio. TPA approaches also have **a clear total return focus**, which helps remove the above-mentioned 'anchoring' bias created by SAA.

- **TPA is dynamic and operates in real-time governance**, limiting the rigidities linked to a strong centralisation of investment decisions within the board and lack of clarity in terms of governance for these decisions.

> *"TPA appears as a more holistic approach than traditional portfolio construction methods."*

Therefore it appears as a more holistic approach than traditional portfolio construction methods insofar, as it sees the portfolio as a collection of interrelated parts managed with a common objective and that together make a whole, rather than a series of sub-portfolios that would be managed independently.

Even though TPA relies on technical competence, it does also have profound implications in terms of governance. This often translates into a need to rethink the existing structures and their ways of interacting, with a clear split of responsibilities between the board, in charge of defining the risk appetite, and the CIO/executive team, which make actual investment decisions. It also implies a cultural change towards more collaboration across teams, which may take time and even require a significant degree of staff turnover or training.

Table 1. The spectrum of portfolio construction approaches

	SAA	TPA
Performance assessed vs.:	Benchmarks	Fund goals
Success measured by:	Relative value added	Total fund return
Opportunities for investment defined by:	Asset classes	Contribution to total portfolio outcome
Diversification principally via:	Asset classes	Risk factors
Asset allocation determined by a:	Board-centric process	CIO-centric process
Frequency of change:	Infrequent, calendar meeting-based	Continuously monitored, changes made in real time
Portfolio implemented by:	Multiple teams competing for capital	One team collaborating together

Better decision framing

Better decision making

Greater dynamism

Source: TPA White Paper, Thinking Ahead Institute.

We now focus on two key components of TPA that we believe are particularly relevant and consistent with our beliefs, starting with the importance of factors in allocating assets.

2- A factor approach and scenario-based approach to asset allocation

We have believed for a long time that applying a factor approach adds many benefits to constructing and analysing asset allocation[4]. This has become even more justified in the current market context. But, what factors are we talking about?

Investor surveys tend to show that, when implementing a factor approach, institutions tend to favour broad macro factors. This is quite understandable. A pension fund for which obligations are indexed to inflation must hold assets that are themselves sensitive to this factor. In contrast, a sovereign investment fund in a commodities-producing

[4]See Pola G, "Managing Uncertainty with DAMS, Asset Segmentation in Response to Macroeconomic Changes", Amundi Working Paper WP-034, May 2013.

country will be motivated, outside of liability restrictions, to diversify its financial portfolio towards asset classes that are likely to post strong performances in scenarios in which commodities prices fall[5]. These examples show that allocating a portfolio along macro factors can help reduce its vulnerability to some types of financial environments while it can help position a portfolio strategically regarding some scenarios (rising or falling inflation, for example[6]).

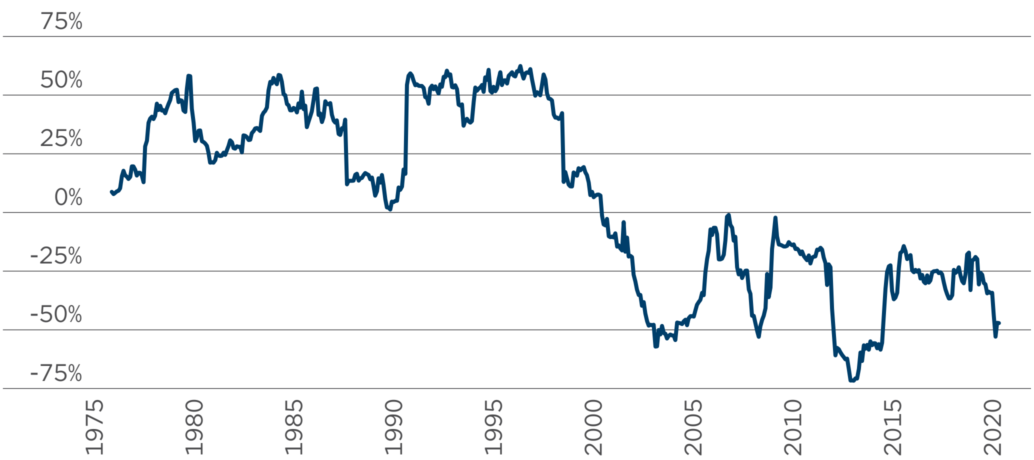
"One cannot discard the risk of a resurgence in inflation in the medium to long term, a scenario in which bond/equity correlations tend to increase as both asset classes are negatively impacted."

2-1- Macro factors as asset allocation drivers

In the typical strategic asset allocation framework, the key decision consists of defining a mix of equities and bonds, which is still the most appropriate way to calibrate the risk profile of a long-term reference portfolio. This makes even more sense as equity and fixed income returns represent two axes to the contribution of a portfolio return, which can be considered as orthogonal, with long-term historical correlations close to zero, illustrating the benefits of diversification.

This assumption may nevertheless be challenged, particularly in Europe, in the current zero-interest-rate environment. Moreover, one cannot discard the risk of a resurgence in inflation in the medium to long term, a scenario in which bond/equity correlations tend to increase as both asset classes are negatively impacted (at least in the short to medium term) by rising inflation[7]. The following chart showing five-year moving correlations between the main US asset classes illustrates the fact that contrary to the current situation, there have been periods in the past of positive bond/equity correlation.

Figure 1. Trend in equity/bond correlations



Source: Amundi on Bloomberg data. Three-year rolling correlation on monthly data as of 22 May 2020. Data refer to the S&P500 index and the Bloomberg Barclays US Treasury TR unhedged USD index.

This justifies going beyond the bond/equity segmentation and introducing an inflation axis in the construction of asset allocation. Such an inflation bucket may include inflation-linked bonds and possibly real estate, which has clear inflation-indexation properties, although it is a mixed asset that also has a growth component, as illustrated by an equity beta that studies estimate to be between 0.25 and 0.4. Commodities may also be integrated in such an inflation bucket, but we are aware that some investors are identifying commodities as an asset displaying specific return patterns beyond its sensitivity to inflation.

[5] Bodie Z and Brière M, "Sovereign Wealth and Risk Management: a Framework for Optimal Asset Allocation of Sovereign Wealth", Journal of Investment Management, Q1 2014.
[6] In particular, see Pola G and Tazé-Bernard E, "Asset allocation in a context of falling oil prices: the case of institutions in commodity-exporting countries", Amundi Cross-Asset Special Focus, January 2015.
[7] See Blanqué P "The road back to the 70's, Implications for Investors", Amundi CIO Insights, Spring 2019 and "Covid-19 the invisible hand pointing investors down the road to the '70s", May 2020.

Growth, including equity-like strategies, whether public or private; **interest rates** (or yield), including public or private debt instruments, and **inflation** are therefore three obvious macro factors to integrate into this allocation approach.

The goal of the asset owner can therefore be analysed in terms of factors, with an asset categorisation that, as an illustration, can take the following form:

Figure 2. Example of macro-factor approach

	Growth	Interest rate	Inflation
	Global Equities Developed	Government bonds	TIPS
	Emerging Equity	Credit / High yield	Commodities
	Smart Beta Equities	Emerging Debt	Real Estate
Illiquidity Premium	Private Equity / Infrastructure Equity	Private Debt and Infrastructure Debt	

Source: Amundi Multi Asset, Institutional solutions.

“Liquidity is an increasingly important macro factor to be integrated into the construction of asset allocation, and this goes beyond a mere split between liquid and illiquid assets, which we believe cannot be opposed in a binary way.”

In addition, we believe that liquidity is an increasingly important macro factor to be integrated into the construction of asset allocation, and this certainly goes beyond a mere split between so-called liquid and illiquid assets, which we believe cannot be opposed in a binary way. Liquidity does vary over time, depending on market conditions and, as shown in one of our recent papers[8], it may ultimately be seen as a proxy of risk on/risk off conditions. Even so-called liquid asset classes, such as emerging or high-yield debt, may become illiquid in periods of crisis, whereas illiquid assets may offer liquidity windows at certain times or under certain conditions in the secondary market. This emphasises the challenges of integrating liquidity into a factor framework, first due to its non-linearity, and to its heterogeneity across assets. Some widely used risk models do consider liquidity as a factor, but this is mainly for public securities, based on their trading activity as a proportion of total shares outstanding. However, this can hardly be applied to private assets. From a broad perspective, it can therefore make sense to segment a portfolio along liquidity buckets, based on estimates of the time required to liquidate a position if needed in adverse market conditions.

Is this macro factor asset allocation segmentation very different from the traditional approach consisting of splitting a portfolio in terms of equity/fixed-income exposure, or by sectors and geographies? Not necessarily so, but it has the advantage of inciting the investor to think differently and focusing on the major drivers of each strategy. Sub-segmentation by sector or region is still applicable in this model, but we observe that particularly regarding equity markets, drivers are increasingly linked to global themes (such as climate change, aging population, technological revolution) rather than geography, justifying a global approach to constructing the allocation. If granularity is excessive in the definition of asset allocation, there is a risk of losing sight of the main balance of the portfolio.

[8]See Pascal Blanqué P and Mortier V, “How investors should deal with the liquidity dilemma”, Amundi CIO Insights, February 2019.

"Factors, particularly within the equity space, are a source of diversification for a portfolio and potentially a more attractive one than that provided by regions, a traditional criterion for asset segmentation."

2-2- Specific asset class factors as an additional layer

Beyond these macro drivers, **there is a large family of factors that can be used as building blocks to construct a portfolio, or on an ex-post basis to analyse its performance.** The factors that have historically been most widely researched and used in portfolio construction are equity factors — such as value, size or quality — along with low volatility or momentum, which rather can be qualified as market anomalies, as their long-term outperformance is more linked to behavioural elements than to fundamental issues. The role of such factors may also be identified within fixed income, where our own research[9] has shown that the addition of value and momentum to a traditional multi-factor analysis improved the explanation of returns in credit markets over the 2009-18 period. It also leads to increased collinearity with the duration, DTS and liquidity factors integrated into the CAPM model, illustrating more limited diversification benefits from introducing these factors into a fixed income allocation compared with their equity counterparts.

Beyond their benefit linked to the risk premium they are expected to produce as a remuneration of the underlying risk they represent, **factors,** particularly within the equity space, as just observed, **are a source of diversification for a portfolio**. It is actually a potentially more attractive one than that provided by regions, a traditional criterion for asset segmentation, and still the mainstream approach and the main driver of investment flows. Correlations between regional equity indices are generally at least 0.9, whereas, as shown in the table below related to the MSCI World universe, excess returns between factors display very modest, or even negative correlations, as between size and quality or between value and momentum. Likewise, when focusing on a given factor across different asset classes — say, between FX momentum and equity momentum — diversification benefits are very high.

Table 2. Correlations of excess returns, global, 2002-17

	Midcap	Minimum volatility	Momentum	Quality	Value
Midcap	100.0%				
Minimum volatility	-19.0%	100.0%			
Momentum	16.3%	31.1%	100.0%		
Quality	-30.9%	39.7%	31.8%	100.0%	
Value	28.9%	-35.2%	-22.1%	-53.9%	100.0%

Source: MSCI, Amundi Research as of December 2017, net total return in USD. **For illustrative purpose only.**

This is linked to the fact that factors follow different cycles and offer different return profiles. For instance, momentum tends to provide regular outperformance while suffering from strong drawdowns in market corrections.

[9] "Traditional and Alternative Factors in Investment Grade Corporate Bond Investing", Amundi Working Paper WP-78-2018, February 2019.

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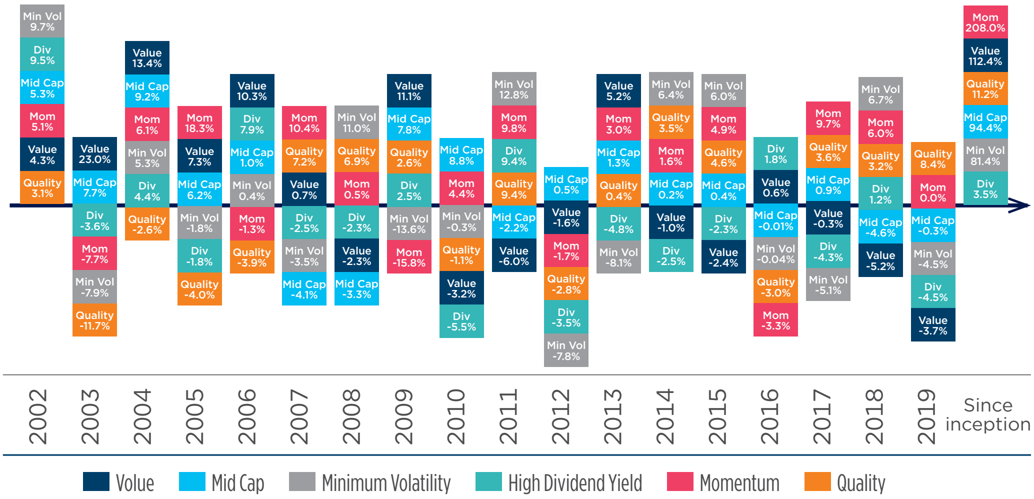
Figure 3. Factor performance is cyclical, MSCI World Factor vs. MSCI World



Source: MSCI. Data as of December 2019, net total return in USD. **Past performance is not a reliable indicator of future results or a guarantee of future returns.**

2-3- Integrating short-term market drivers, hedging strategies based on scenario analysis

In addition to major macro drivers and to the above-mentioned well-recognised factors remunerated over the long term, it may be interesting to analyse portfolio sensitivity to certain events, such as Brexit or a strong slowdown of the Chinese economy, to take two recent illustrations. These cannot be qualified as factors — rather, they are short-term market drivers which do not offer a persistent premium — but it is worth estimating their impact. A more resilient portfolio can in fact be constructed with the help of assets identified as offering some degree of exposure to or increased protection against the analysed driver. It may also be useful to construct a portfolio combining strategies consistent with a central and most likely scenario with hedging strategies designed to benefit from the occurrence of an alternative scenario articulated around such short-term drivers.

2-4- Factors fit well within TPA

"It is essential to construct and monitor asset allocation along with macro drivers as growth, inflation, risk conditions and liquidity."

This analysis shows that it is essential to construct and monitor asset allocation along with such macro drivers as growth, inflation, risk conditions and liquidity. Such a macro approach can be complemented, at a more granular level, by structuring the portfolio in terms of traditional factors that have long been identified within the equity scope and, more recently, within fixed income. Adding short-term market drivers, **this calls for flexibility in the way investors should look at their portfolio**, as its structure may vary depending on the way one looks at it.

A given asset is indeed a mix of elementary exposures to factors, but these frequently overlap and change over time. Investors should therefore have at their disposal tools enabling them to analyse their portfolio from different angles, such as a macro factor axis, a horizon or liquidity axis. Implementation then supposes an ability to use instruments to help correct or take exposure to individual risk sources depending on expectations and market conditions.

Now, where does this fit within TPA? TPA supposes a total return mind-set, while within the more traditional approach, asset allocation is defined by granularity relating to the country, sector or rating level, among others. This does not imply that a large asset management company interested in TPA will in no case manage benchmarked portfolios, especially given that a number of investors remain attached to such an approach. Rather, a TPA mind-set can even be applied to managing a benchmarked portfolio, in terms of holistic approach to constructing the allocation as well as openness to investment ideas outside of the benchmark.

"Constructing allocation with factors has benefits from an organisational standpoint, as it contributes to using a common language between bond and equity specialists or between experts on liquid or illiquid assets."

Constructing allocation with factors also has **benefits from an organisational standpoint,** as it contributes to using a common language between different investment professionals and, in particular, between bond and equity specialists or between experts on liquid or illiquid assets, as institutions often remain organised along these lines. It is certainly enriching for high-yield credit and private asset specialists to hold a dialogue related to the meaning of liquidity and to current market liquidity conditions. Likewise, contrasting with the traditional approach which tends to be top-down, from analysing macro conditions before moving down to monetary policy, interest rates and equities, global investment committees should start with an analysis of factors currently driving markets, on which investment managers are incited to focus.

3- Integrating sustainability into the asset allocation framework

3-1- Sustainability as an essential part of an institution's philosophy

We are convinced that investors will be increasingly persuaded to adopt a sustainable investment approach, under the impact, among other issues, of:

- **Regulation,** regarding in particular the need for institutional investors to contribute to climate change mitigation and to report on their actions in this area.
- **Reputation**, as, particularly following the current crisis, all investors will need to clearly redefine their mission, their fiduciary responsibility vis-à-vis all their stakeholders, and be aware of the impact of their actions on society as a whole.

A TPA framework is also supposed to be particularly well adapted to the implementation of a sustainable investment approach. **There are indeed common features to TPA and sustainability:**

- **Holistic:** investing along ESG criteria, which is a way of applying a sustainability approach, proceeds from an institution's investment philosophy, within a long-term and holistic approach. **ESG represents a broader way for investors to look at their portfolios**, combining traditional financial analysis criteria with non-accounting-related ones, and potentially leading to being able to evaluate a portfolio according to a balanced scorecard: such a scorecard could include sustainability targets and mitigation of long-term risks in addition to performance and risk defined along purely financial criteria. A number of investors have already concluded that elements related to a company's governance, as well as the social and environmental impacts of its actions, were key to the quality of corporate analysis.
- **Long term:** environmental, social and governance risks are often expected to materialise in the long term, prompting institutions applying a sustainable approach to establish long-term scenarios and to reflect on the consequences of their actions over such a horizon. As an illustration, these institutions should ask themselves: "Do our investment activities contribute to mitigating the consequences of climate change?" or "What is our view on the development of social inequalities, on their potential impact on long-term growth, and should our security selection process integrate such trends?"
- **Total return-oriented:** We believe that the total return framework that is recommended along with TPA looks more appropriate within a sustainable investment approach. As an example, the sustainability policy defined by an institution may lead to excluding certain securities or deciding on significant portfolio biases against certain sectors or types of companies. This will unavoidably lead to sizable divergences against standard market references that would be difficult to accept within a strongly benchmark-driven investment approach.

"The total return framework that is recommended along with TPA looks more appropriate within a sustainable investment approach."

"Sustainability is an essential part of an institution's philosophy, and ESG investing goes beyond aiming to benefit from exposure to an ESG factor expected to be rewarded in the long term."

3-2- Can ESG be considered as a factor?

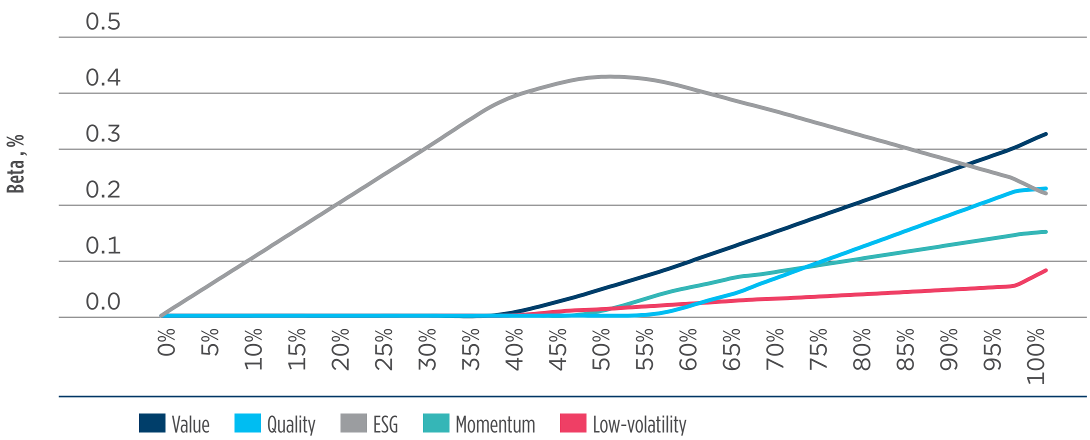
We therefore believe that sustainability is an essential part of an institution's philosophy, and that ESG investing goes significantly beyond aiming to benefit from exposure to an ESG factor expected to be rewarded in the long term. We observe, however, that some investors still look at ESG as a factor, and, as such, as explained in Section 2 of this paper, it can appear well adapted to a TPA approach from this factor allocation point of view as well.

In our recent research, we have investigated whether ESG can be considered a new risk factor, along with the traditional ones that have been well recognised on equity markets, such as value, momentum, size, quality or low volatility. We have applied different methodologies and concluded that results depend on the region. It appears in particular that ESG has become a beta strategy in Europe and that it adds diversification in multifactor portfolios. This is not (or not yet) the case on the US equity market, where it remains an alpha strategy without significant additional diversification, probably reflecting lower investor mobilisation there than in Europe[10]. Results also vary over time, as the most recent period of analysis (2018-19 compared to 2014-17) has shown an increasing focus on the social pillar of ESG investing relative to the environmental pillar, as health systems, growing inequalities and workplace safety are put under the spotlight.

"ESG investing and factor investing can be seen as increasingly interlinked, leading some investors to select ESG as one of the potential candidates for the factor approach that is recommended within TPA."

As an illustration, the following chart summarises the results regarding the European equity market of one of the methodologies we have applied, based on 'lasso' regressions with different levels of penalty, showing the sequential ranking of factors depending on the level of factor intensity in equity portfolio construction. We observe that when constructing multifactor portfolios with a low to medium factor intensity, the ESG factor is dominant. Its importance then declines somewhat when factor intensity rises, to the benefit of the value and quality factors, illustrating that it becomes somewhat redundant in an already well-diversified factor portfolio. This analysis still emphasises the useful addition of an ESG factor in a multi-factor analysis of the Eurozone index universe.

Figure 4. Factor picking, Eurozone, 2014-19



Source: Amundi Research. Data as of 12 May 2020.

Our conclusion is that ESG investing and factor investing can be seen as increasingly interlinked, leading some investors to select ESG as one of the potential candidates for the factor approach that is recommended within TPA.

[10] "ESG Investing in Recent Years: New Insights from Old Challenges", Amundi Discussion Paper, January 2020.

"The first step is the definition of an institution's sustainability policy, which is often linked to the reasons why the institution decides to implement an ESG policy."

3-3- Sustainability is a long journey

First, there is a long way from deciding to follow a sustainability approach to actually implementing it in a portfolio. The first step here is the definition of an institution's sustainability policy, which is often linked to the reasons why the institution decides to implement an ESG policy, whether it proceeds from a fundamental belief, regulatory changes, or from pressure from employees, shareholders, investors and/or competitors.

Then, there can be different ways of defining an ESG policy, from the exclusion of certain assets, sectors or securities to the definition of an engagement policy and/or the integration of ESG criteria in an investor's portfolio construction process. The investor must be clear about the balance s/he wishes to hold between financial and non-financial objectives, as well as on the method viewed to be appropriate for the evaluation of the potential costs and difficulties of moving towards a sustainable investment policy. This does not mean that such costs are necessarily higher than the expected benefits in the long term, and our proprietary research confirms that applying ESG filters is not detrimental to performance. Nevertheless, it is essential to be aware of the costs, in terms of lower portfolio diversification — or higher implementation — that may be generated by applying an ESG filter, depending on the regions or assets to which it is applied.

More practical issues also need to be addressed relating to:

- **The measurement of non-financial parameters**, as methodologies related to gender diversity, wage divergences within a company or CO_2 emissions, just to take a few examples, are not yet fully harmonised within the investing community.
- **The choice of ESG indices** in the case of institutions that still need to define such references — for instance, to evaluate the benefit of applying such an approach. ESG indices are recent and subject to wide divergences depending on the index provider's definition and approach to ESG. Such divergences will probably persist, as they reflect philosophical differences.
- **The portfolio reporting format**, including ESG parameters. Even though we can expect regulation to be increasingly precise regarding such a reporting format, investors will always be able to choose to report on specific indicators that they deem particularly important to them.

Moving to a sustainability approach may be a long process and institutions should define a roadmap over several years, with intermediate steps and targets set, as well as some yardsticks to evaluate the attainment of their objectives.

4- Asset allocation governance

Implementing a TPA approach implies a number of challenges in terms of investment governance, a key element needed to capitalise on internal talent in order to efficiently manage portfolios.

4-1- A more collaborative functioning

The most important issue, valid for asset owners as well as asset managers, is probably to **foster cooperation within an investment organisation**. All participants should be expected to contribute to the collective decision instead of fighting for their area of expertise, which is too often the case. In this perspective, it is useful to be clear about each participant's expected contribution. Cognitive and character diversity as well as complementarity within a team are valuable features to favour clear identification of individuals' specific value-added.

Amundi ASSET MANAGEMENT

"TPA should allow for more flexibility in the asset allocation process, due to the absence of a benchmark that can sometimes be seen as a straitjacket limiting an investor's capacity to generate out-of-the-box ideas."

Bringing transversal topics to the table can be an efficient way to break silos and ensure that investment experts co-operate towards a common goal. As already seen in Section 2, factors can be such topic, but it may also be the integration of ESG criteria or the impact of artificial intelligence on the functioning of markets and investment processes.

TPA is supposed to allow for more flexibility in the asset allocation process, due in particular to the absence of a benchmark that can sometimes be seen as a straitjacket limiting an investor's capacity to generate out-of-the-box ideas. We believe such flexibility is needed for the investment team to adapt to unexpected market circumstances (e.g., having to very swiftly adjust portfolios due to the outbreak of the coronavirus crisis) as well as to integrate innovative approaches to portfolio construction. Board members can be a source of stimulus to encourage such innovation.

Flexibility should go along with elements of systematicity and regularity in the functioning of the investment process. As an illustration, we recommend holding regular meetings that are well prepared for and based on a well-defined checklist. Likewise, well-formalised tools should be used to evaluate asset classes on a regular basis and their relationships with the defined factors in order to avoid participants relying on the yardstick that most suit their current views, as different models often provide different results. This is somewhat akin to the putty-clay macroeconomic model, combining stability with elements of flexibility.

Finally, within the TPA framework, there is a clear split of responsibilities between the Board, which should really focus on core strategic issues, and the Investment team in full charge of managing portfolios on a daily basis. As a result, the CIO of the asset owner or of the asset manager has a major responsibility in ensuring efficient portfolio management.

4-2- The important role of the CIO

There are a number of messages that may be useful to share at this stage on the expected role of the CIO.

One such element is an ability to organise debate within a clearly defined framework and set of rules, and ensure that potentially valuable ideas are expressed. Challenge should be encouraged, which supposes the acceptance of non-consensual propositions and a culture of truth, in which mistakes are acknowledged in order to be able to draw lessons from them. A lively investment committee also tends to be enriched by a capacity to listen to divergent opinions, even when expressed in a strong manner.

"The success of TPA is linked not only to well-formalised processes and performing investment tools, but also to individual personalities."

The CIO should refrain from being excessively vocal in these debates, keeping a role of arbitrator between potentially conflicting opinions. An investment committee is not a mere forum designed to build a consensus decision and the CIO, as the final decision-maker, should not hesitate to make decisions that sometimes run against the crowd. This requires clear leadership skills, which need to particularly stand out in difficult market environments: in such circumstances, a CIO must display intellectual leadership, reassure when team members most look for guidance, and show a capacity for decision-making.

These comments are designed to illustrate the fact that the success of TPA is linked not only to well-formalised processes and performing investment tools, but also to individual personalities. In this context, it should not be surprising to observe that institutions that have been pioneering TPA have generally done so under a strong drive from their CIO, who was convinced of the validity of the approach. In some cases, the implementation of TPA coincided with a change of leadership or the definition of a new governance framework.

5- Implementing TPA: many challenges, but some potential answers

"Implementing full-fledged TPA presupposes a fundamental transformation of an investment organisation."

5-1- Cultural and investment challenges

As already implied in the previous sections, implementing full-fledged TPA presupposes a fundamental transformation of an investment organisation.

It raises cultural issues, with the necessary development of a culture of truth, openness, challenge and cooperation that is not always naturally occurring in organisations used to segmentation by asset class or area of expertise. Silo mentality should therefore be fought, both within the investment function but also across the whole organisation. Intense interaction must take place — in particular, between investment, risk and support staff — which should be infused with an investment culture. Such a cultural evolution can only be triggered by a leader highly convinced of the benefits that such approach may bring to overall performance and endowed with sufficient leadership to conduct the required change over time. It may also be favoured by some degree of staff turnover, allowing new hires adhering to the proposed model to transmit their enthusiasm to more conservative team members.

In pure investment terms, moving to a total return mentality is also a challenge when the whole financial industry is actually organised around asset classes, countries and sectors, and it is often easier to segment investment teams along these lines. Moreover, a benchmarked approach is certainly more comfortable, both for the final investor and for the portfolio manager, whereas moving to a total return approach raises measurement issues at the portfolio construction as well at the performance reporting stage. How would success be measured with regard to the management of the portfolio? And, how would a portfolio be allocated across factors? For instance, if an institution decides to allocate the portfolio across macro factors, what is the appropriate balance between an exposure to growth and to inflation, when there is no widely accepted market reference and when such exposures are simply estimations?

Another issue is that comparing investment opportunities across investment classes supposes that you have a common yardstick, which is not obvious, especially in terms of risk. This is particularly true when investigating alternative assets, for which volatility and correlation have limited meaning as their returns are far from following a Gaussian distribution and carry a form of reflexivity. As an illustration, Private equity returns are impacted by an investor's actions, which can create value by supporting the management in the redefinition of their strategy. These investments are also highly heterogeneous and idiosyncratic, as is the case in Private debt, where the covenants that are negotiated can heavily influence the nature and level of risk for an investor.

"The first action for the Board to take is to review the institution's objectives, set its risk appetite, and define its investment and sustainability philosophy."

5-2- Some answers

We have mentioned a number of difficulties in implementing TPA, but some responses can be proposed. **Starting with cultural and organisational issues**, the first action for the Board to take is to review the institution's objectives, set its risk appetite, and define its investment and sustainability philosophy.

The investment team should then be invited to propose more precise elements regarding its investment universe and a process to reach the target return, as well as the roles and responsibilities of the different participants in the investment decision process.

This would include in particular a description of the factors to be integrated into the investment approach. If, as we suggest, a macro factor approach is adopted, assets should be mapped as a combination of exposures to key factors — for instance, Real Estate as a mix of growth, interest rates, inflation and illiquidity — thereby analysing them as a sum of premia, without forgetting, of course, their high degree of idiosyncrasy.

Despite the strong approximations it implies, this approach should be seen as a broad guide for setting policy, and we believe it is already helpful to:

- Obtain rough estimates of the overall balance of the portfolio along major drivers. Is it heavily biased towards rising growth or accelerating inflation?
- Have a clear view of how a given change in the portfolio allocation will affect its factor exposure. This can help identify which assets to favour when willing to modify the portfolio stance. When venturing into uncharted territories, it is better to have an approximate compass reading than no compass at all.

Likewise, when allocating across equity factors, portfolio construction rules should be defined. A possible approach consists of applying an equal risk contribution methodology, taking into account the fact that some factors are more volatile than others or that they can justify a higher weighting when they display strong diversification benefits, even though it is also worth taking into account the variability of such risk contributions depending on market circumstances.

"Maximum drawdown can be defined as a common risk indicator to be applied to traditional and alternative assets, along with cross-sectional price dispersion indicators to compare risk across different asset classes."

Regarding the comparability of different asset classes within a common framework needed to improve internal cooperation between teams and, in particular, between traditional and alternative investment experts, it can be helpful to **set common risk indicators**. Maximum drawdown can, for instance, be defined as a common risk indicator to be applied to traditional and alternative assets, along with cross-sectional price dispersion indicators to compare risk across different asset classes. Tail-risk analysis can also be used to estimate the behaviour of assets in extremely adverse scenarios.

More generally, **we recommend adopting an open and flexible approach to analyse a portfolio through different risk sources**. In the case of real and alternative assets, a number of specific risks, such as legal or industrial ones, should be added to traditional financial risks to analyse an investor's portfolio.

Figure 5. Examples of additional risks related to alternative assets

Project risk	Cash-flow risk	Sourcing risk	Political risk
Incl. legal Industrial	**Interruption of coupon distribution**	**Limited access to deals**	**Modification of project conditions**

Source: Amundi Research as of 12 May 2020.

We also suggest moving beyond the traditional binary segmentation between liquid and illiquid assets and being able to segment a portfolio between different liquidity buckets. Then, as far as ESG policy is concerned, once the Board has defined its philosophy, this should be translated into detailed ESG criteria specific to the institution, as well as methods to measure them and an adapted reporting format, as already mentioned in Section 3-3 of this document.

There is, of course, a lot to do on the road to TPA, but these are initial propositions to illustrate that TPA is not a vague concept, but one that involves a number of practical steps.

"TPA responds to the need to adopt a new language through which to sift through all asset classes, whether liquid or illiquid, traditional or factor-oriented, as well as to break silos that may appear in any large organisation."

Conclusion: TPA is a state of mind

We believe that TPA responds to the need, for asset managers as well as for asset owners, to adopt a new language through which to sift through all asset classes, whether liquid or so-called illiquid, traditional or factor-oriented, as well as to break silos that may appear in any large organisation. The moment looks particularly appropriate given the current market context. The increasing interest in alternative assets that have long remained well separated from traditional assets due to their strong specificities, as well as the integration of ESG in the standard allocation framework, obliging a combination of financial and extra-financial criteria in analysing assets, are strong additional incentives.

It can generate a number of benefits. A TPA mind-set, by reducing frontiers between asset classes and organising teams in a more fluid and collaborative way, allows for increased openness to opportunities that lie outside of conventional asset class buckets and more consistency at the portfolio level.

As moving to TPA implies important cultural changes, it needs to be defined as a genuine long-term journey with intermediate steps and indicators to measure success in the implementation of change.

Difficult challenges lie in the way. They will lead investors to develop new tools to analyse their portfolios along additional angles and to apply a multi-dimensional approach to risk analysis and portfolio construction. Portfolio tools should in particular be improved to better describe the behaviour of alternative assets and of factors as well as to integrate non-financial criteria, all of which need to be adapted to an investor's philosophy and can hardly result from current market standards. Therefore, there is a strong incentive for large investors that can afford it to develop proprietary tools and rely on their own data sets rather than looking to outsourcing to access these key sources of information.

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