



# WHITE PAPER



## THEMATIC INVESTING TOWARDS A CORE PORTFOLIO ALLOCATION





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YOUR NEEDS  
A new solution offer for CPR AM

# ABOUT

## CPR ASSET MANAGEMENT

*CPR AM is an innovative and fast-growing asset management company that makes human aspects central to its development. Being an independent, wholly-owned subsidiary of Amundi, CPR AM has the agility of a boutique, while benefiting from being part of one of Europe's largest asset managers.*

This unique set-up is the foundation for CPR AM's commitment: designing innovative investment solutions, advising clients and partners with transparency, being highly reactive while delivering higher long-term risk-adjusted returns.

CPR AM works exclusively in third-party investment management with all customer segments: institutional clients, corporates, private banking, fund management, and wealth management clients.

At the end of September 2021, overall assets under management amounted to €63bn.

Through the dedication of its 100 employees, the company has developed a unique expertise in all major asset classes - thematic and multi-factor equities, asset allocation, fixed income, credit, and monetary instruments.

Responsible investing has been at the heart of CPR AM's research since 2015 and is now implemented across the company's entire range of open-ended funds. CPR implements a proprietary investment methodology that considers ESG risk factors in relation to the challenges of each sector or investment theme. The company has also developed and is extending a range of impact investment funds, to make a positive contribution to environmental and social externalities.

CPR AM, corporate overview as at 30/09/2021



**> 30 years of experience,**  
in France and abroad



**37 entities worldwide**  
through Amundi group



**€63 billion**  
of assets under management



**An independent subsidiary,**  
100% owned by Amundi  
**Integrated support functions**



**> 100 employees**



**An offer fitting all customer profiles** with **solutions tailored to their needs**

# FOREWORD

## WHITE PAPER OVERVIEW

*Over the past ten years, CPR Asset Management has developed a unique range of thematic investment solutions. This is a strategic choice that perfectly meets the challenges of our times. What could be more logical than associating long-term investments with major economic, societal, technological and environmental trends?*

Thematic investing meets fundamental investor expectations : it brings meaning to their investments, can potentially generate a positive impact and seeks to return sustainable performance while providing diversification. CPR AM is one of the pioneers of thematic investing. In 2009, we launched CPR Silver Age, a European equity fund that is focused on senior citizens' purchasing habits. Twelve years later, we have established ourselves as a global leader in thematic investments, with over €19bn under management, 24 open-ended funds and 16 dedicated funds by the end of June 2021. Every day our 17 portfolio managers and product specialists within our thematic equity team interact with a broad network of investment professionals (strategists, ESG analysts, financial engineers, thematic experts, etc.).

At CPR AM, we are convinced that there can be no performance without sustainability taken into consideration. Today, we are seeing congruence between thematic and sustainable investment managements. The quest for financial and sustainable alpha leads investors' choices.

Since 2017, we have chosen to steer our thematic investment approach towards meeting the major sustainability challenges identified by the United Nations Sustainable Development Goals (SDGs). New thematic strategies have been launched focusing on the food challenge, education, reduction of inequalities and action in favour of the climate. In addition to a pure definition of the thematic universe, we integrate extra-financial criteria and impact indicators that we measure and monitor every month. Results are presented in the funds' annual impact reports.

### From satellite asset to core portfolio management

Our experience today enables us to draw a number of conclusions on thematic funds' behaviour and to establish some principles to extend their use in the future. The challenge is no longer to employ thematic investments as

satellites or diversifying assets. The challenge is to build a thematic allocation that can become part of the core portfolio allocation - both for retail and institutional clients. The increasing diversity in thematic investing, in terms of sectors, regions, market capitalisations and risk profiles makes this shift towards thematic allocation possible.

Integrated into the core portfolio, thematic investment is of greater interest to investors. As a reminder, thematic investing focuses on companies benefiting from a long-term trend that could potentially lead to higher sales and earnings growth. Through an investment approach that is based on global universes, whose construction is free of any reference index, thematic investing provides an element of diversification compared to traditional equity management, which is based on major market indices. Its performance profiles are different and contribute to strengthening the investor's equity assets.

### Thematic premium

Broadening the scope of thematic investing is an ambitious project. While not claiming to have all the answers yet in this new White Paper, our research, strategy and management teams wish to present the principles of a core portfolio thematic allocation. This work, which combines prospective elements with illustrations and practical examples, begins by highlighting the existence of a premium within thematic investing.

Our research and strategy teams have used the analysis of megatrends to investigate the sustainability of alpha generated within thematic universes, and to position themes in their life cycle. Unlike quantitative smart beta/factor investing, thematic investing is based on the anticipation of long-term opportunities and risks linked to secular trends: the ageing population, climate change and energy transition, global education needs, etc. The investment decision is no longer determined by whether a company belongs to a sector or a country.

## Thematic allocation

The final part of the White Paper is devoted to the construction of a thematic allocation, which is intended to replace a traditional equity allocation. This thematic allocation is resolutely oriented towards the future and sustainability.

Based on forward-looking analyses, the thematic strategic allocation maximises the growth potential of each megatrend. This process involves a combination of quantitative and qualitative approaches - both for identifying premiums and justifying their potential persistence, and for building the allocation.

Then there is the tactical dimension, commented on by our thematic and diversified investment teams. By construction, thematic funds, which focus on emerging trends, tend to have a stronger growth factor footprint. They also have a greater exposure to small and mid-cap companies. This positioning is neither suitable for every market cycle, nor when micro market cycles succeed one another, as happened in 2021 (growth, then value, then momentum, etc.). On this matter, our White Paper details how thematic allocators will hedge or, otherwise, strengthen selected exposures to take advantage of the market environment.

Finally, we present options to offer tailored solutions to each investor's risk, volatility, tracking-error and investment universe preferences. The move towards thematic allocation is a significant shift. **The objective is clear: to capture the structural growth of themes and build sustainable, balanced equity portfolios that are both resilient and adaptable across economic and market cycles.**

# THEMATIC PREMIUM

## Is there a thematic premium?

Our journey towards the construction of thematic funds allocation starts with a study to quantify the alpha generated by thematic investing. We define this alpha or thematic premium as the performance that is not explained by market, geographic, currency, sector or style factors. This premium obviously varies over the theme's development cycle (emergence - growth - maturity - normalisation). It must absolutely be identified before considering further research on thematic asset allocation benefits.

To carry out this study on the existence of thematic premiums, CPR AM's research team has considered the thematic investment universes of its fund range and not the mutual funds themselves, as the latter integrate tactical stock picking or allocation choices on their respective investment universes (with a positive or negative contribution to performance). It should be noted that the larger a thematic universe is, the lower the proportion of specific risk. This diversification effect means that the underlying thematic portfolios carry a higher specific risk than their investment universe, since portfolios are more concentrated.

We have broken down the risks and performances of different thematic universes using a factor model. First, to calculate the relative return against a global benchmark, we have identified the contribution to performance stemming from our factor exposures and deducted the thematic premium by subtracting all factor contributions from the relative return. In addition, using the same factor model, we have calculated the risk contribution of all factors, thereby capturing systematic risk. We have also calculated the specific risk contribution, i.e. what is not explained by our systematic risk factors in the tracking error.

We have carried out this exercise on several thematic fund universes. We found that across thematic universes, factor groups (market, style, country, sector, currency, specific) do not contribute to risk in the same way. The main risk drivers are also not the same, and risk contributions can also come from long or short exposures depending on the factors and the thematic universe.

**Ultimately, the returns/risks from the relative factor exposures account for the systematic returns/risks. The remaining component, defined as the idiosyncratic equity risk/performance, represents the specific risk/alpha-premium of our thematic universes.**

Daily cross-sectional regressions<sup>1</sup> are performed to calculate the factors' returns and the residual returns of each stock based on the total returns and the stocks' exposures to the different factors. The universe premium is then calculated by aggregating the constituent stocks' residual returns.

Highlighting the specific premium among the factors



## Breakdown of performance

The breakdown of the performance of thematic universes between the performance derived from systematic factors and the performance derived from the thematic premium reveals several insights.

**Here we have focused on three strategies: Global Disruptive Opportunities, Food for Generations and Global Silver Age.**

1. In statistics and econometrics, a cross-sectional regression is a type of regression in which the explained and explanatory variables are all associated with the same single period or point in time. This type of cross-sectional analysis is in contrast to a time-series regression or longitudinal regression in which the variables are considered to be associated with a sequence of points in time.

## ● Global Disruptive Opportunities

The Global Disruptive Opportunities strategy (GDO) focuses on disruptive companies or companies that benefit from disruption by adapting their business model to new market rules. The fund's universe delivered a positive return over the period 2016-2020. Indeed, in a rising, growth-oriented market, the fund's universe positively benefited from its long exposures to beta/IT systematic factors, which are among the main contributors to tracking error (see the chart below) and which greatly contributed to the positive performance from systematic factors (see the chart below). Moreover, the GDO universe's performance is strengthened by the thematic premium, which was initially modest, and which then accelerated as from spring 2018 and especially from spring 2020 onwards with the sharp increase in digitalisation triggered by the Covid 19 pandemic (digital economy is a significant part of the universe).

Chart - Risk breakdown - overview of main drivers (long IT, long beta, momentum)

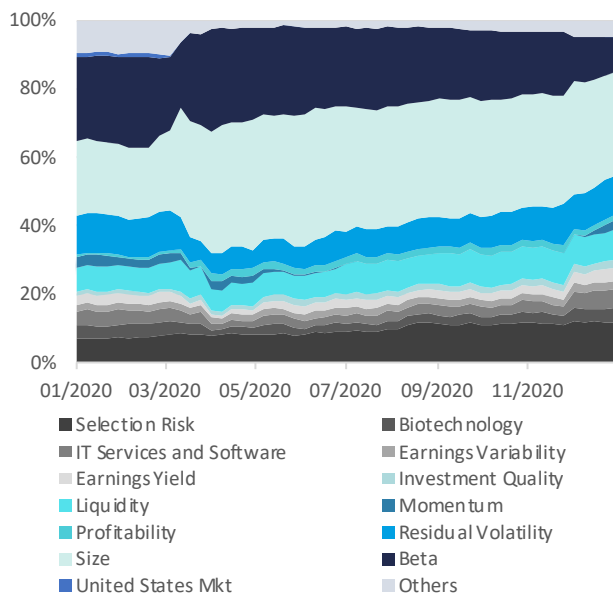
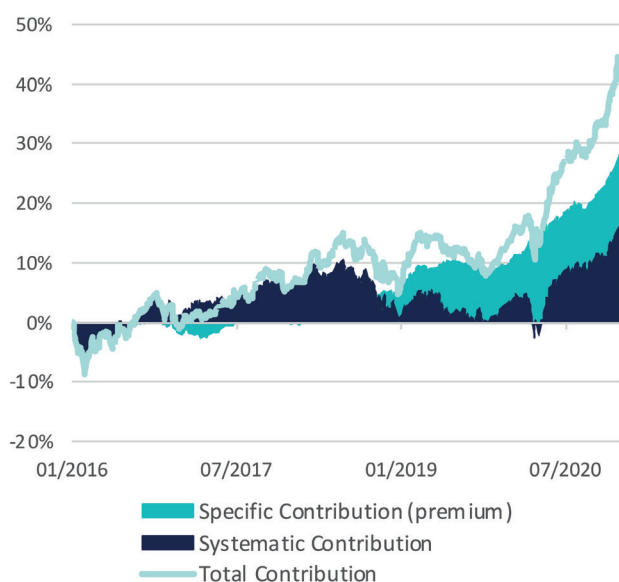


Chart - Performance split between systematic factors and thematic premium



## ● Food for Generations

The Food for Generations strategy (FFG) takes a sustainable approach to identify sources of growth along the food value chain to help meet the challenge of feeding the world. Its investment universe performance suffered from a defensive bias (in particular due to its long exposure to the food and consumer goods sectors and its short exposure to the IT sector) in a bullish market. Nevertheless, the thematic premium remained positive and upwardly oriented over the period under review, indicating a buoyant theme.

Chart - Risk breakdown - overview of main drivers (long food, long staples, short IT, short beta)

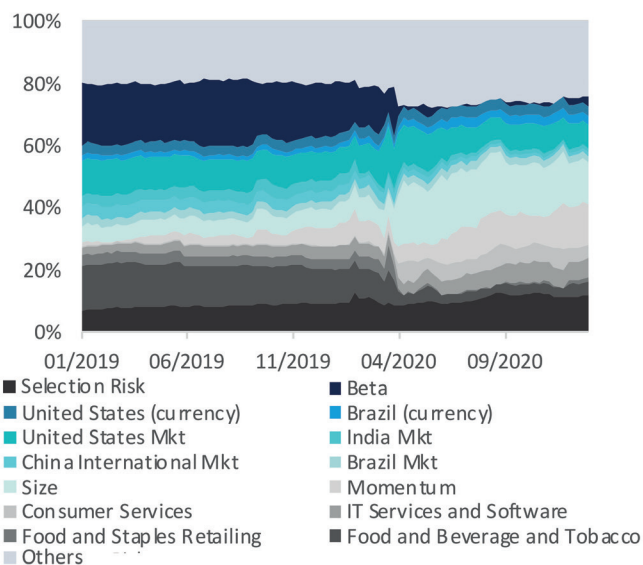
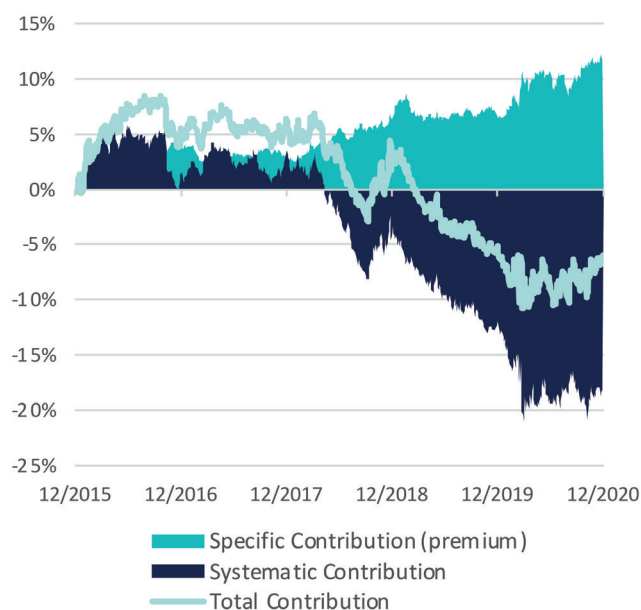


Chart - Performance split between systematic risk and thematic premium



Sources: Barra, CPR AM

## ● Global Silver Age

Regarding the Global Silver Age universe (GSA), which focuses on investment opportunities linked to the ageing of the world population, the downward trend in the premium beginning in 2019 once again raises questions about the thematic positioning in its cycle: is the ageing theme simply taking a break or has it reached maturity in terms of investment opportunities? Are there stocks within the thematic universe from which it is still possible to extract a premium? According to our experts, this is a universe that is in transition, which will benefit from the emergence of new technologies such as telemedicine or new therapies (genome, RNA), for example, which are not yet reflected in the historical analyses, but which validate the relevance of the theme. This analysis is a reminder of the importance of forward-looking fundamental views on themes when implementing a thematic allocation.

Chart - Risk breakdown - overview of main drivers (long healthcare, beta since 2020, short momentum)

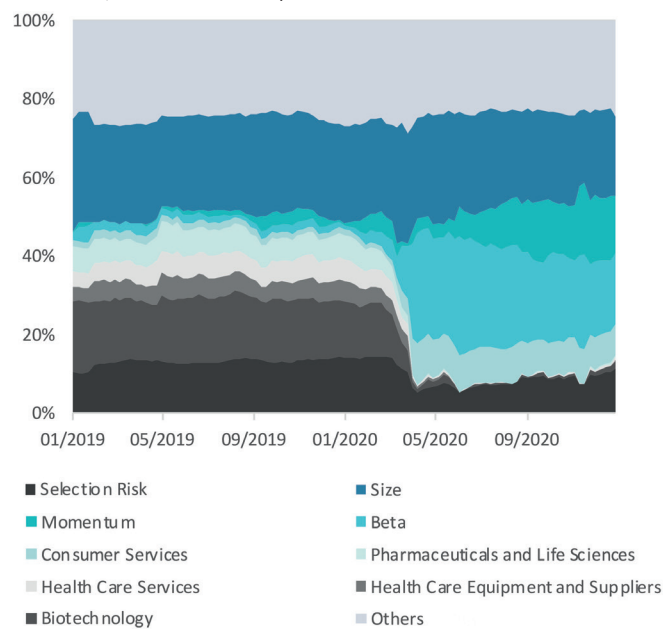
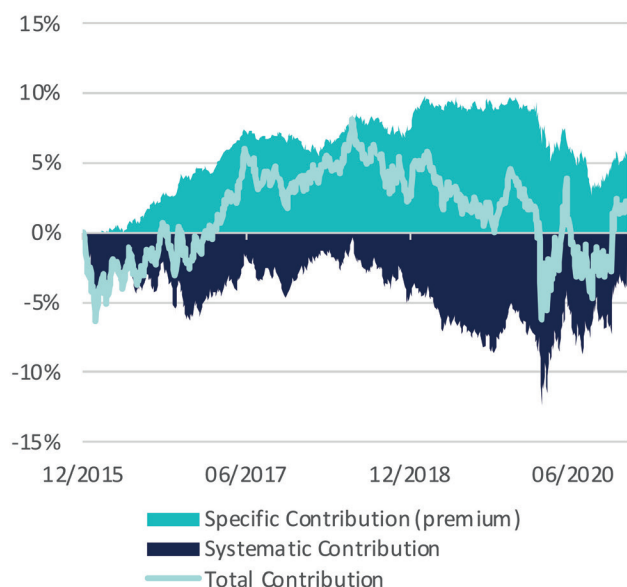


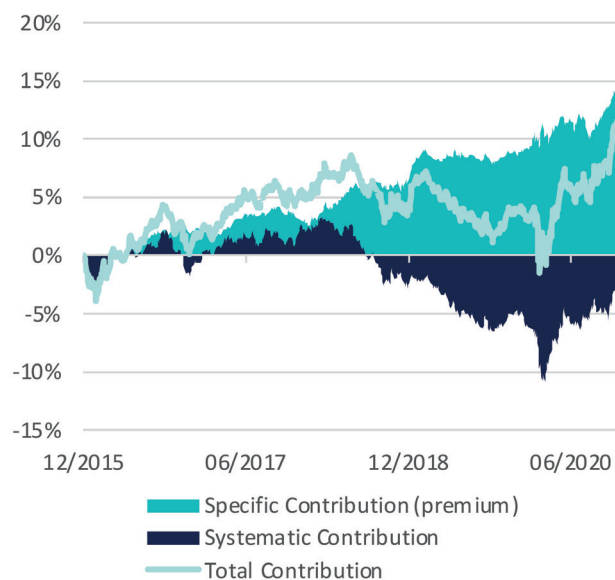
Chart - Performance split between systematic factors and thematic premium



## Systematic risk diversification and premium extraction

GDO, FFG and GSA investment universes have different risk profiles, but each exhibits a positive premium, alternating between sluggish and booming phases. The contributions of systematic exposure to performance are very different, reflecting the diversity of the tested universes. An equally weighted portfolio of the three investment universes illustrates how diversification can reduce systematic risks, while the equally weighted premiums of each universe add up.

Chart - Performance split between systematic factors and thematic premium - 1/3 GDO + 1/3 FFG + 1/3 GSA allocation



At this stage, the idea is not to say that the three themes alone are sufficient to provide portfolio diversification. In particular, systematic exposures made a negative contribution to performance from end-2018 onwards. However, with only three themes, the portfolio already benefits from a reasonable diversification, which could be improved through the addition of other themes.

The evidence of a thematic premium and the tests carried out on an equally weighted approach confirm the relevance of a thematic allocation. This basic example shows how the allocation between several themes can be used to extract this premium. We will then see how the weights of the thematic bricks will be optimised, via the construction of a strategic allocation, and then, a tactical allocation, within a risk framework that considers the diversification of themes.

Sources: Barra, CPR AM



# THEMATIC STRATEGIC ALLOCATION

## A prospective analysis to access the persistence of premium

Building a strategic allocation of thematic investments requires medium to long-term views on each underlying asset in the portfolio. Our preliminary analysis of thematic premiums has shown that they changed over time.

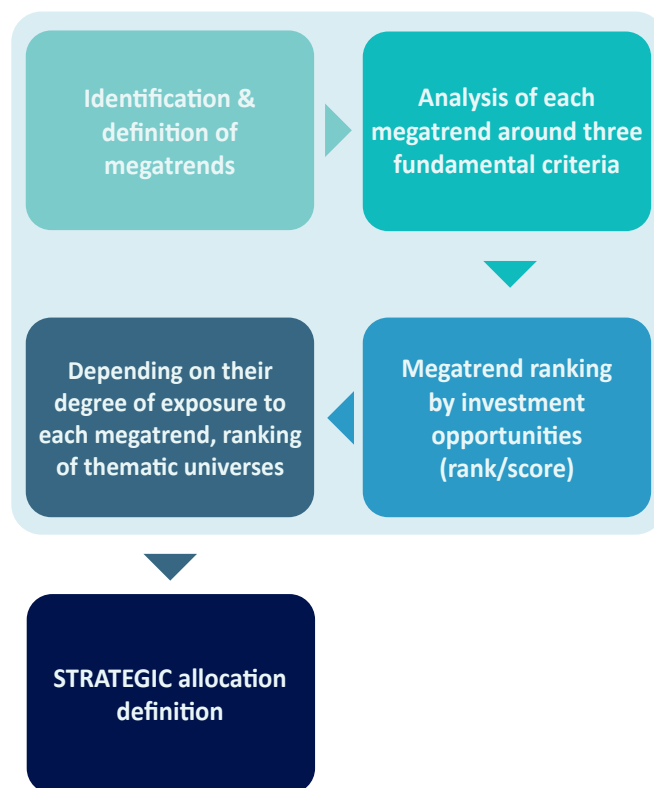
In thematic investing, investment universes are built on the anticipation of long-term opportunities and risks linked to one or more secular, structural trends that are independent of economic cycles. In order to obtain a forward-looking view on each theme and to identify structural trends that are capable of generating growth over the long term, it is therefore necessary to look at these "megatrends" and to develop a transparent framework for assessing their relevance to thematic investment.

## Is there a hierarchy amongst megatrends in the context of thematic investing?

In 2020, the United Nations<sup>2</sup> identified five megatrends that are "shaping our world": climate change, demographic developments (and in particular the ageing of the population), urbanisation, rising digital technologies and increasing inequality. Megatrends can be defined as trends occurring on a global scale that affect large groups of people, countries, regions and sometimes the entire human race. They occur over long periods (several decades) and are sometimes interconnected.

These megatrends are among the most influential factors in societal and economic changes. They guide public policy. They are fundamentally independent of economic cycles and largely global, even though they take different forms depending on the region in question. Some are inherent to the march of humanity (demographic shifts, urbanisation, digitalisation). Others, such as climate change and rising inequalities, are more the result of shortcomings in public policies. Furthermore, it should be noted that we consider the megatrends identified by the United Nations in a relatively broad way, in order to understand their full scope. For example, a certain number of social and societal changes (increased access to the educational system, rise of individualism, etc.) are to some extent part of the urbanisation megatrend. Likewise, some scientific developments can be linked to the emergence of digital technologies.

From megatrends to strategic allocation



## Three fundamental criteria for analysing megatrends

- **Maturity.** While some trends have existed for a long time, with well identified mechanisms and beneficiaries, others are still in their early stages and/or still have significant development potential. For these, a wide range of futures is possible.
- **Economic weight.** The size of current and future public and private consumption and investment expenditure vary, depending on the megatrend considered. In particular, this depends on public opinion and on political authorities' will on the matter.
- **Portfolio Manager's capacity to exploit the megatrend.** It is not always possible to find investment vehicles that can benefit from certain economic and societal changes. A theme only becomes exploitable in terms of investment when it is possible to construct a sufficiently pure and broad investment universe containing companies that directly benefit from one or several megatrends.

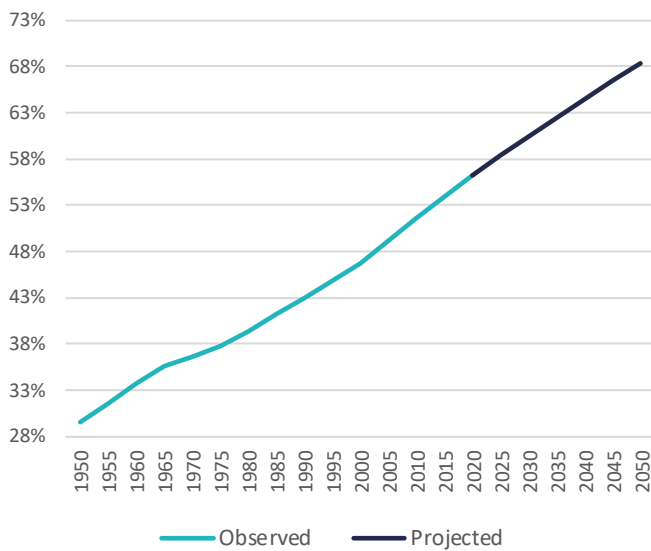
Let us now try to characterise the megatrends according to these criteria.

2. United Nations, 2020, "Shaping the trends of our time".

## ● Where do megatrends stand in their development cycle?

The megatrends are clearly not all at the same stage in their development cycle. For example, urbanisation is not a new phenomenon. The share of the world's population living in urban areas has grown continuously since the Second World War and is expected to continue to grow at similar rates over the next thirty years according to projections of the United Nations<sup>3</sup>. For this megatrend, thematic investing becomes meaningful by analysing the geographical areas where urbanisation is progressing most rapidly and by analysing the changes in already urbanised areas (smart cities).

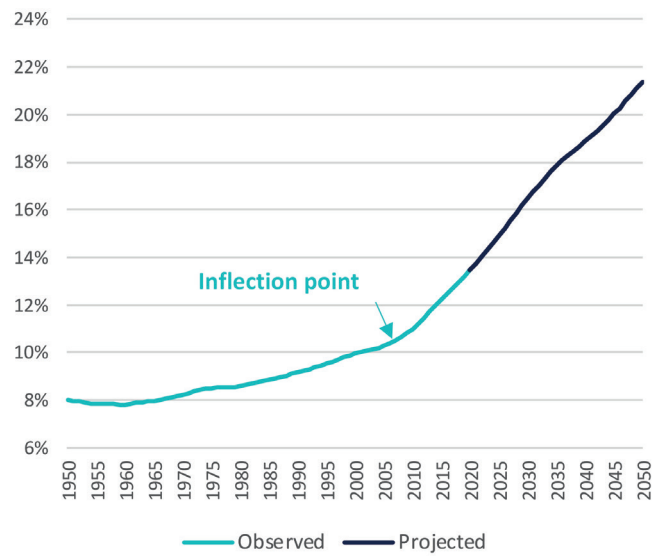
Chart - Share of population living in urban areas



Source: CPR AM, United Nations

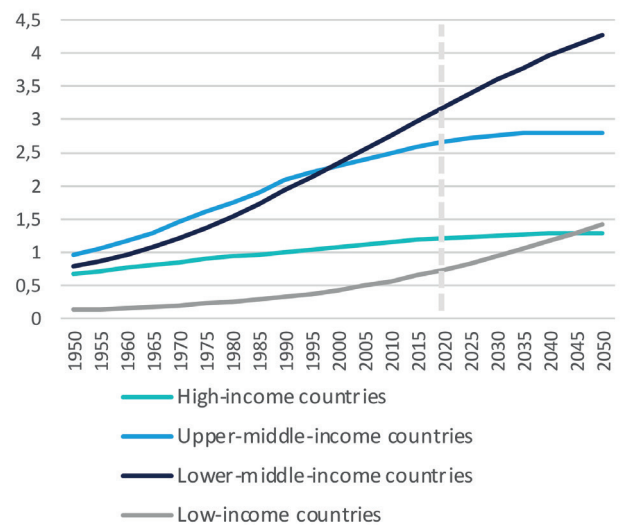
As far as population ageing is concerned at the global level, the arrival of the first baby boomers at retirement age around 2010 marked a clear acceleration in the trend observed since the early 1970s. A number of economic players are already benefiting from population ageing; and this trend will continue. The United Nations estimate (with a significant margin of error) that the world's population will continue to grow by about 1% per year, until it reaches a peak by the end of the century (11 billion people). Again, these megatrends are indeed global and will bring growth, but they need to be fully analysed in order to take advantage of them, as their dynamics are not homogeneous across regions: 97% of the increase in population will occur in emerging countries.

Chart - Share of world population over 60



Source: CPR AM, United Nations

Chart - Total population by zone (billion)

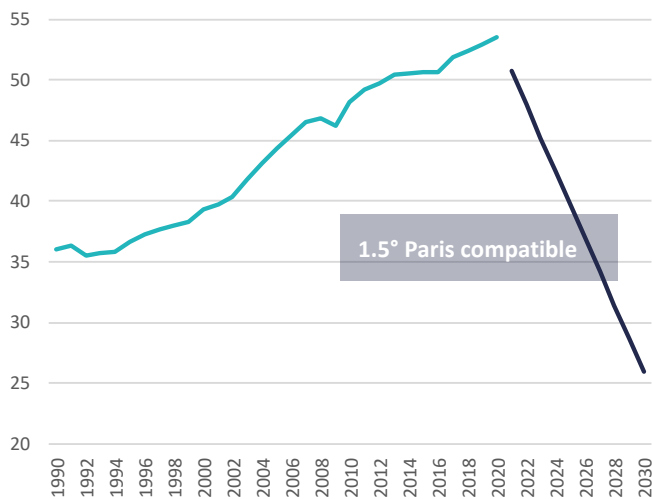


Source: CPR AM, Datastream.

The impact of climate change is becoming increasingly dramatic. While the Paris Agreement, which aims to limit global warming to 2° above pre-industrial temperatures, was signed in 2016, the battle against climate change is actually only just beginning. Some areas are lagging far behind on the issue. As the IPCC report published in 2021 showed, the reduction in greenhouse gas emissions required over the next few years to limit global warming is very significant and represents a real challenge. Given our current lifestyle, our carbon budget will be consumed within the next ten years.

3. United Nations, 2019, World Populations Prospects

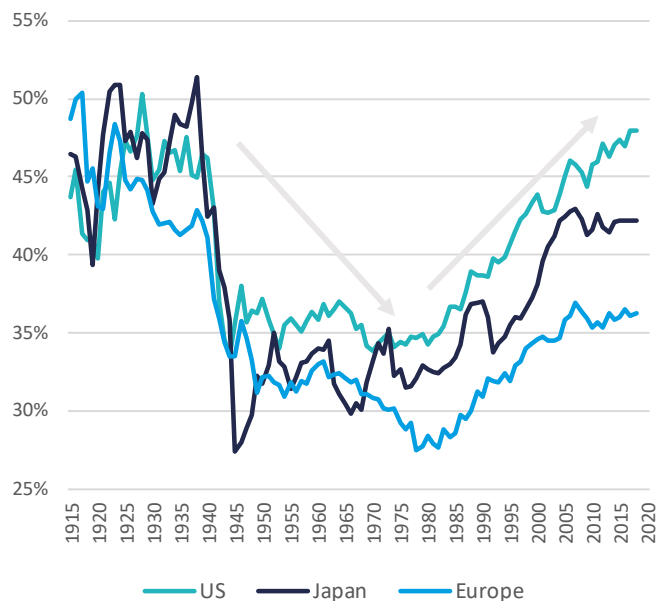
Chart - Global greenhouse gas emissions (in equivalent GtCO<sub>2</sub>)



Source: CPR AM, Climate Action Tracker

It is now well documented that inequalities have increased in developed countries since the early 1980s for a variety of reasons (globalisation, robotisation/automation, switch of employment from industry to services). This becomes clear when one focuses on the share of the top 10% in national income in the United States, Europe and Japan. While the consequences of rising inequalities (in particular, the rise of populism) have been increasingly clear in recent years, political awareness of the need to counter them seems to have only just begun.

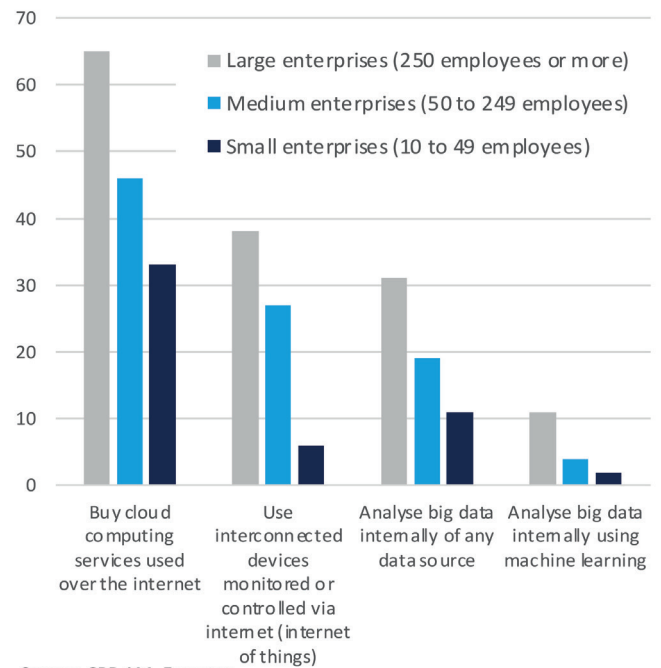
Chart - Share of the top 10% in national income



Source: CPR AM, Piketty (2019)

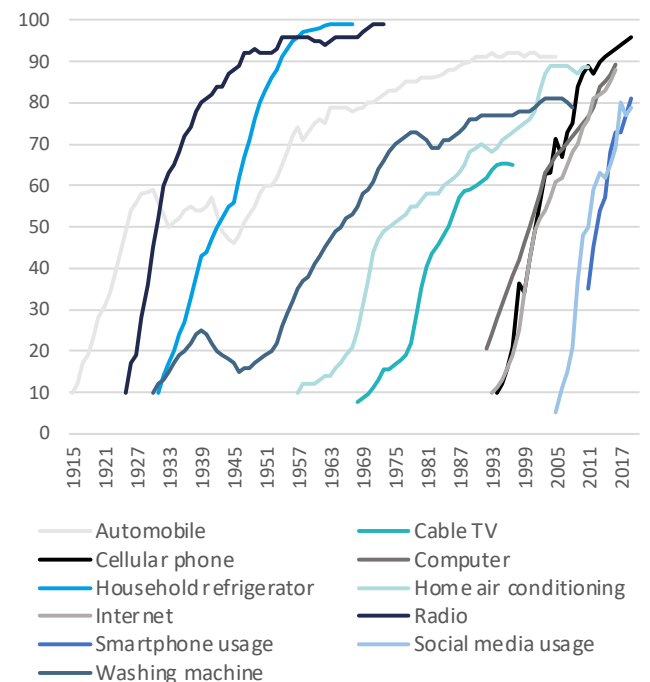
The emergence of digital technologies is a multi-faceted phenomenon that is difficult to pin down to one particular metric. Robotisation, digitalisation of businesses (finance, health, education, trade) or the greater use of data (big data) are only a few examples<sup>4</sup>. Despite accelerating over the Covid pandemic, the digitalisation phenomenon is still in its early stages. For example, in 2020, only 14% of EU companies were conducting big data analyses.

Chart - EU: % of businesses using digital technologies in 2020



Source: CPR AM, Eurostat

Chart - United States: household technology adoption



Source: CPR AM, Datastream.

4. The share of e-commerce as a percentage of overall retail sales has risen from less than 11% in 2019 to almost 14% by the end of 2020.

As shown in the graph above, in the modern world, not only technological progress, but also the rate at which consumers adopt new technologies is increasing exponentially: new ideas and products can spread at unprecedented speeds - to the point where they are in the hands of consumers in the blink of an eye!

## ● What current and future spending and investments for megatrends?

It is not easy to compare the investments made in the various megatrends. This is because precisely quantifying the associated inflows can be tricky for some of them. This section reviews some key figures that need to be considered when assessing the economic weight of each megatrend.

Climate change and digitalisation are high on the agenda of developed country governments. They feature prominently in post-Covid recovery plans. Under its Next Generation package, the European Commission requires that at least 37% of national post-Covid stimulus packages be devoted to environmental transition and 20% to digitalisation.

According to BloombergNEF, between \$92tn and \$173tn of investment in the energy and infrastructure sectors over the next 30 years will be needed to prevent global warming. This means that annual investment will have to increase from the present \$1.7tn to \$3.1/5.3tn. However, there is considerable uncertainty around these projections, as governments have differing levels of desire and capacity to lead the energy transition.

Given the multi-faceted nature of digital technologies, quantifying their weight in the economy is a complex task, and the statistical institutes have not yet finished building their measurement tools regarding them. According to the Bureau of Economic Analysis, the digital economy accounted for 9.6% of US GDP in 2019, or \$2tn, having grown 3.6 times faster than GDP since 2005. It is clear that the digital economy's growth has accelerated during the pandemic and will be supported by the various stimulus packages over the coming years.

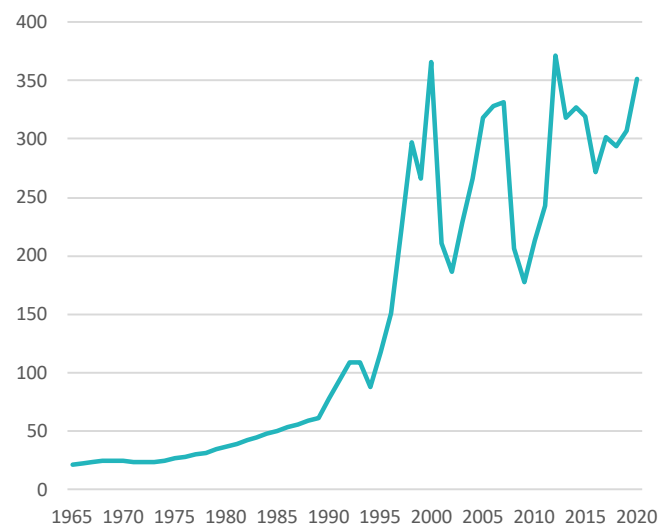
Quantifying the phenomenon of urbanisation raises questions of scope. The construction sector represents a significant weight of most of the world's economies. Future urbanisation is more likely to occur in emerging than in developed countries, although certain segments (smart cities) are growing rapidly in the latter. A study by Global Industry Analysts suggests that the global smart city market will be worth \$742bn in 2020 and \$2,500bn in 2026. Interestingly, this megatrend overlaps with aspects of digitalisation and smart energy transition.

Investments directly associated with the megatrends of population ageing and fight against inequalities are more difficult to measure. In the case of population ageing, spending on health and dependency will rise steadily in the coming years. On average in OECD countries, health expenditures will reach 10.2% of GDP by 2030, up from 8.8% in 2015. However, it is trickier to quantify the scale of the changes in consumption

patterns associated with an ageing population.

Regarding the fight against inequalities, one major unknown lies in the governments' capacity to translate their commitments into concrete measures, and even public investments. The fight against inequality within companies, through the introduction of extra taxes based on the CEO pay ratio or sanctions for companies that discriminate against women compared to men<sup>5</sup>, is a mechanism that can be easily acted on. One third of growth in income inequality in the United States between 1978 and 2013 is due to intra-firm<sup>6</sup> inequality.

Chart - 350 largest US companies: CEO to average employee pay ratio



Source: CPR AM, Economic Policy Institute

## ● How to convert megatrends into investment themes?

The precise definition of investment themes and universes is an essential starting point for long-term value creation. The investment universe must simultaneously be sufficiently deep, diversified, and pure to take advantage of these underlying trends. From there, building thematic universes is a two-step process:

- The first step is to define the sub-themes/investment sectors that underpin the thematic universe. This is often done in collaboration with experts in each discipline.
- The next stage consists of selecting the stocks associated with each sub-theme of the investment universe. This aspect is the subject of much research and is constantly being improved: the first approach, based on companies' membership of a sector of activity, was supplemented by a dynamic vision of the investment expenditure associated with the themes, then very recently by textual analysis techniques (NLP, Natural Language Processing) of companies' reports.

5. See EU 2021 report on gender equality.

6. Song G., D. Price, F. Guvenen, N. Bloom & T. von Wachter, 2018, "Firming up inequality", Quarterly Journal of Economics.

Megatrends such as climate change, digitalisation and urbanisation benefit a large pool of listed companies. It is also relatively easy to find pure players or large companies that are at least partly involved in these themes. It is even possible to link them to one or more business sub-sectors. For example, renewable energy is easily associated with climate change and fintech with digitalisation. Finally, regarding the fight against inequality, one way for the investment management industry could be to identify companies with more egalitarian policies than others.

## Digitalisation and environmental transition top the list

Individually, each of these themes is meaningful within its investment horizon, whether to enhance performance potential or to diversify an existing allocation. As part of this new thematic exercise of the strategic allocation of investments, all themes are relevant, although their respective weightings

need to be determined. We hereby draw up a hierarchy of megatrends, covering a three-to-five year horizon, which is reviewed annually by an ad-hoc committee. The results hereunder present the state of our thinking on the matter.

The megatrends of technological innovation and climate change mitigation seem to be at the forefront of thematic investing, as they are in the early stages of their development cycle. Massive investments are being made and there are numerous investment opportunities. Next is the urbanisation trend, especially for the sub-segments that are directly related to the two previous megatrends. Finally, come the trends of demographic change and the fight against inequality.

Table - Megatrends ranking by investment opportunity

	Position in the development cycle	Current and future economic weight	Investment readiness	Total
Technological innovations	3	3	3	9
Fighting climate change	3	3	2	8
Demographic developments	2	1	3	6
Urbanisation and societal changes	1	2	3	6
Tackling inequalities	3	1	1	5

*Nb: Increasing scale from 1 to 3 on each criterion. A score of 1 on the criteria 'Position in the development cycle' indicates a mature megatrend and a score of 3 an emerging megatrend or a megatrend with significant potential for further development.*

### ● Mapping the megatrends underlying our thematic universes

The above works have laid the foundation for a strategic allocation based on our flagship thematic funds. Our analysis of megatrends must now be completed by their mapping within each of CPR AM's thematic funds. As shown in the table below, each thematic fund has one or several underlying megatrends.

This mapping is essential to understand the drivers of each fund's thematic premium, and to transform the megatrend scoring into a scoring of our thematic universes, as this is what will be used to build the strategic allocation. Note that this thematic fund mapping will be complemented by weightings, so as to distinguish between dominant and secondary megatrends within a thematic universe.

While we chose the UN megatrends as our starting point, we decided to adopt a more open interpretation, in order to capture a wider range of investment opportunities over the medium to long term. For example, the theme of urbanisation is intricately linked to new aspirations for people and can more globally be extended to societal change.

Table - Which megatrends are present in the underlying themes?

Funds/Megatrends	Tackling climate change	Population shifts	Urbanisation and social change	Technological innovations	Tackling inequality
<b>Global Disruptive Opportunities</b>	CO2 emissions reduction Renewable energies	Labour force decline and productivity improvement	Smart cities New consumption patterns	Scientific and technological innovation	
<b>Food for Generations</b>	Change in production / consumption habits	Population growth  Middle-class development in emerging countries	Life quality and premiumisation : Health & well-being  New consumption patterns	Digitalisation  Agricultural innovation	
<b>Lifestyle</b>	Sustainable consumption	Wealth of millennials  Middle-class development in emerging countries	New consumption patterns Life quality Aspirations (well being + leisure)	Digitalisation	
<b>Education</b>		Growing student population  Middle-class development in emerging countries	Aspiration & life quality	Digitalisation	Reducing inequalities by growing access to quality education
<b>Medtech</b>		Population ageing  Lengthening of life expectancy		Digitalisation and Robotics (improved service + lower costs)	
<b>Global Silver Age</b>		Population ageing Longer life expectancy	Changes in senior citizens' consumption	Digitalisation and Robotics (improved service + lower costs)	
<b>Social Impact</b>			Life quality		Tackling intra-firm inequalities
<b>Climate Action</b>	CO2 emissions reduction and environmental protection		Air quality / Economic development	Climate transition: CleanTech	
<b>Hydrogen</b>	CO2 emissions reduction and environmental protection		Development of transport	Climate transition: CleanTech	
<b>Future Cities</b>	CO2 emissions reduction and environmental protection	Infrastructure development	Smart cities	Climate transition: CleanTech	

## ● Setting up a strategic allocation with a consistent risk framework

Quantifying thematic premiums and analysing their links with megatrends has enabled us to position the themes in their life cycle and to develop a forward-looking vision on the premium's persistence. This analysis is essential to ensure that the best-positioned themes are correctly included in the strategic allocation over a 3-5 year horizon.

Beyond the qualitative approach, it is important to establish a risk framework for a coherent asset allocation, and in particular to control the overall risk level in relation to an international equity index. This aims to avoid a strategic allocation that is biased towards a particular theme, such as technology, which would mean a very different risk profile from the benchmark.

Since the strategic allocation should be stable and relatively independent of market developments, it is not appropriate at this stage to use overly volatile risk data such as volatilities,

correlations or style factor exposures. Rather, we propose to analyse each thematic fund's sectorial breakdown and to check that the strategic allocation's sectorial breakdown is "in line" compared to that of a benchmark.

We will study the risk profile of each potential underlying fund. This aims to determine whether these assets are sufficiently diversified to replicate the benchmark's risk profile by combining their exposures, and at the same time to enable managers to add tactical bets if they wish so.

We selected the MSCI All Countries World Index (ACWI) as the benchmark for our study. This index has the advantage of being more exposed to emerging economies than the traditional MSCI World index. It is already used as a reference indicator of most of CPR AM's thematic funds.

As illustrated below, the study conducted on a sample of nine CPR AM thematic funds shows that the underlying building blocks considered for thematic allocation are relatively diversified from a sector point of view.

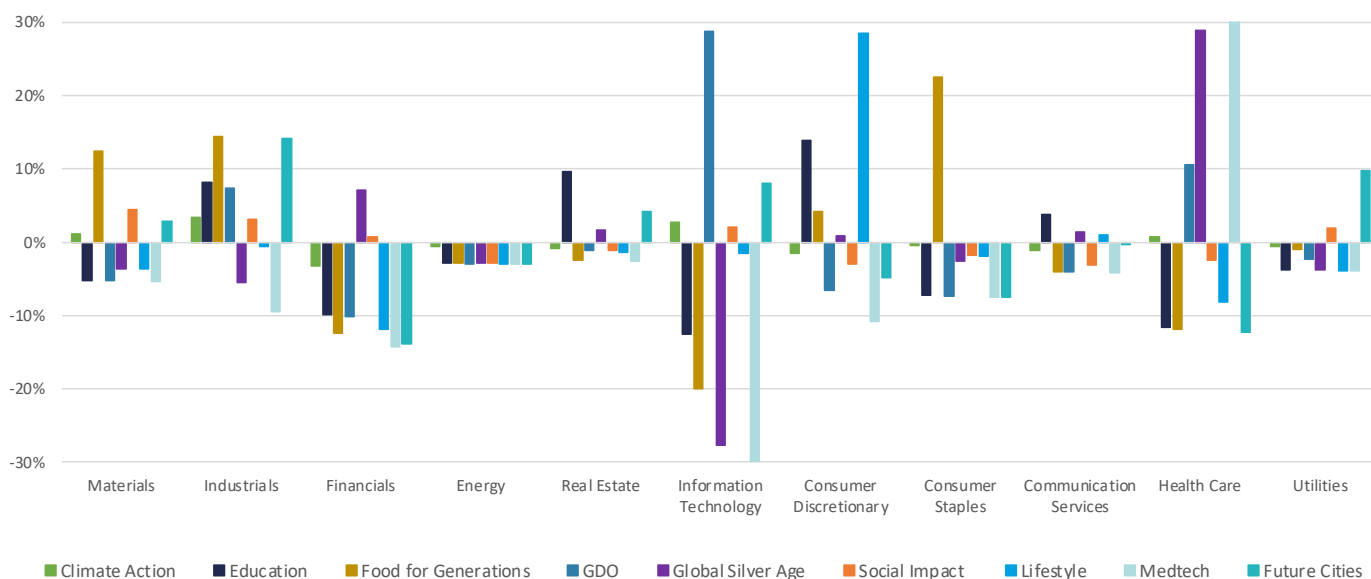
Table - Sector exposure gaps of the thematic underlyings assets against the MSCI All Countries World Index

	Climate Action	Education	Food for Generations	GDO	Global Silver Age	Social Impact	Lifestyle	Medtech	Future Cities
Materials	1,2%	-5,3%	12,5%	-5,2%	-3,7%	4,5%	-3,7%	-5,3%	2,9%
Industrials	3,5%	8,2%	14,4%	7,3%	-5,5%	3,2%	-0,5%	-9,5%	14,1%
Financials	-3,2%	-10,0%	-12,4%	-10,1%	7,1%	0,8%	-11,8%	-14,2%	-13,9%
Energy	-0,6%	-2,9%	-2,9%	-2,9%	-2,9%	-2,9%	-2,9%	-3,0%	-3,0%
Real Estate	-0,8%	9,7%	-2,4%	-1,1%	1,6%	-1,1%	-1,3%	-2,5%	4,3%
Information Technology	2,7%	-12,6%	-20,0%	28,8%	-27,7%	2,0%	-1,5%	-30,0%	8,1%
Consumer Discretionary	-1,5%	13,9%	4,2%	-6,5%	0,9%	-2,9%	28,6%	-10,8%	-4,8%
Consumer Staples	-0,5%	-7,3%	22,6%	-7,4%	-2,5%	-1,8%	-1,9%	-7,6%	-7,6%
Communication Services	-1,1%	3,9%	-4,0%	-4,1%	1,4%	-3,1%	1,1%	-4,2%	-0,3%
Health Care	0,7%	-11,6%	-11,9%	10,6%	28,9%	-2,4%	-8,2%	88,9%	-12,3%
Utilities	-0,6%	-3,8%	-1,0%	-2,3%	-3,8%	2,0%	-3,9%	-4,0%	9,8%

Source: CPR AM

The underlying funds have sector biases - mainly structural, which is interesting in terms of allocation stability for the manager. For example, the Global Disruptive Opportunities fund is structurally over-exposed to the information technology sector. The Food for Generations fund has a bias towards staples and the MedTech fund is more exposed to the healthcare sector.

Chart - Sector exposure gaps of the underlying thematic funds compared to the MSCI All Countries World Index



Source: CPR AM

However, the financial and energy sectors are currently under-represented in the entire range of thematic funds. It should be noted that the recently launched Hydrogen fund could eventually provide exposure to the energy sector, which is absent in the current underlying assets.

These underexposures can be compensated through investments in external thematic funds according to sectoral views of managers and analysts, and according to the client’s specifications (provided, of course, that the funds selected fall within the same analytical framework as the themes already present, e.g. validation of the premium’s potential persistence).



# TACTICAL ALLOCATION

## The merits of being tactical in thematic allocation

The strategic allocation aims to identify long-term trends and overweight the most relevant themes over a three-to-five year horizon. However, these medium-to-long-term views are not sufficient to define the weightings to be attributed to the thematic underlying assets.

In addition to strategic allocation, it is relevant to integrate tactical views to take into account the volatility of risk factors and the active management of investment vehicles. Also, tactical views are useful to hedge or reinforce factor biases, depending on the managers' short- or medium-term market views.

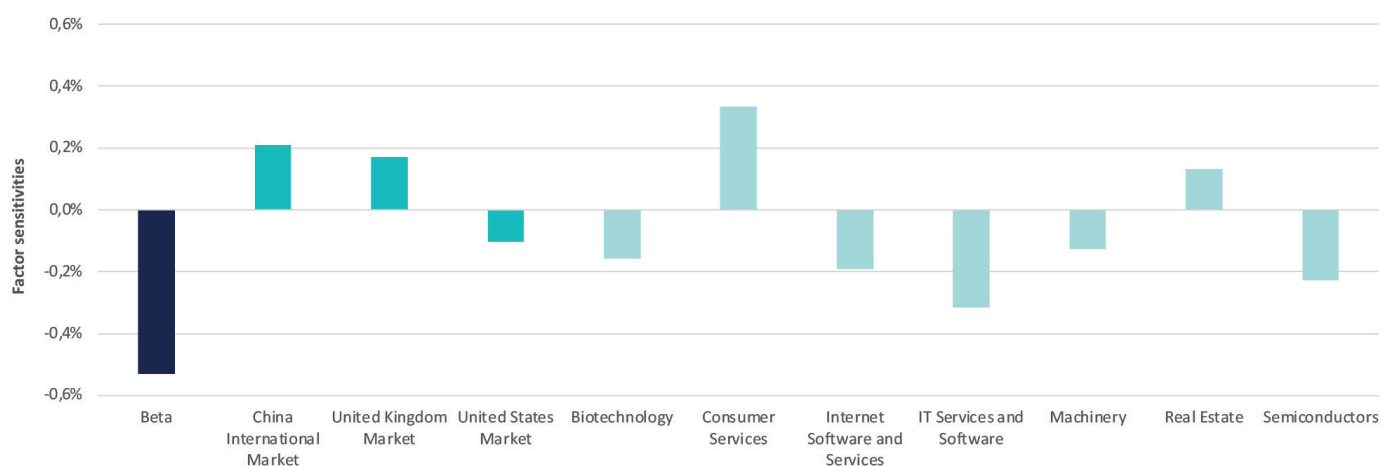
## Combining qualitative and quantitative approaches

It is important to combine quantitative and qualitative approaches when implementing a tactical allocation. In the absence of managers' fundamental views on the factors to emphasise, a quantitative approach could, for a similar level of risk, result in different portfolio combinations, with completely different exposures.

Indeed, the thematic underlying assets available are sufficiently diverse to allow for different systematic exposures, while achieving very similar levels of risk.

In the following example, we have formed two allocations in which we deliberately sat up different factor exposure constraints while aiming for a similar tracking error level. From optimization 1 to optimization 2, the tracking-error does not vary significantly. However, we do have different factor sensitivities and different tracking-error decomposition as shown in the following charts.

Chart - Relative factor sensitivities of allocation 1 versus allocation 2

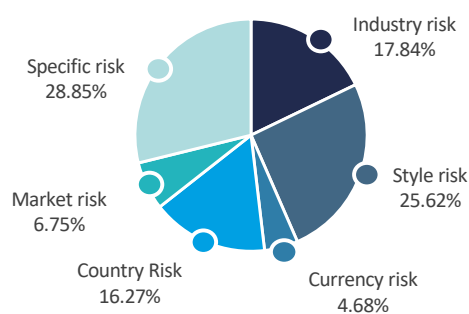
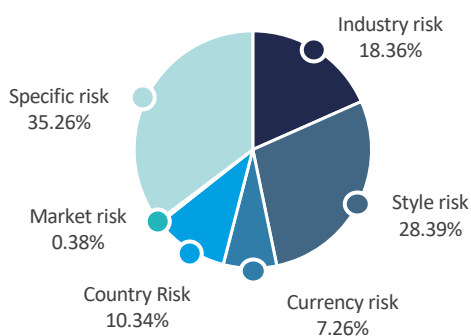


Source: Barra, CPR AM

Chart - Sector exposure gaps of the underlying thematic funds compared to the MSCI All Countries World Index

OPTIM 1 31/12/2019	Tracking error breakdown	Tracking error breakdown as % of total
Industry risk	0.37	18.36%
Style risk	0.57	28.39%
Currency risk	0.15	7.26%
Country Risk	0.21	10.34%
Market risk	0.01	0.38%
Specific risk	0.71	35.26%
<b>Total TE</b>	<b>2.00</b>	<b>100.00%</b>

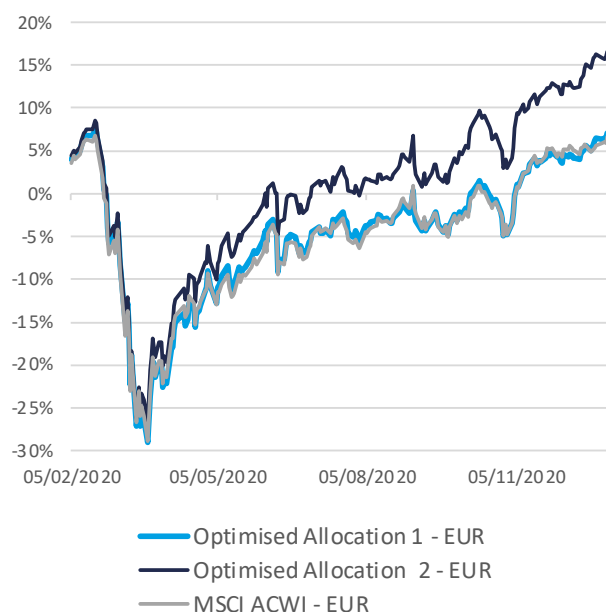
OPTIM 2 31/12/2019	Tracking error breakdown	Tracking error breakdown as % of total
Industry risk	0.40	17.84%
Style risk	0.58	25.62%
Currency risk	0.11	4.68%
Country Risk	0.37	16.27%
Market risk	0.15	6.75%
Specific risk	0.65	28.85%
<b>Total TE</b>	<b>2.25</b>	<b>100.00%</b>



Source: Barra, CPR AM

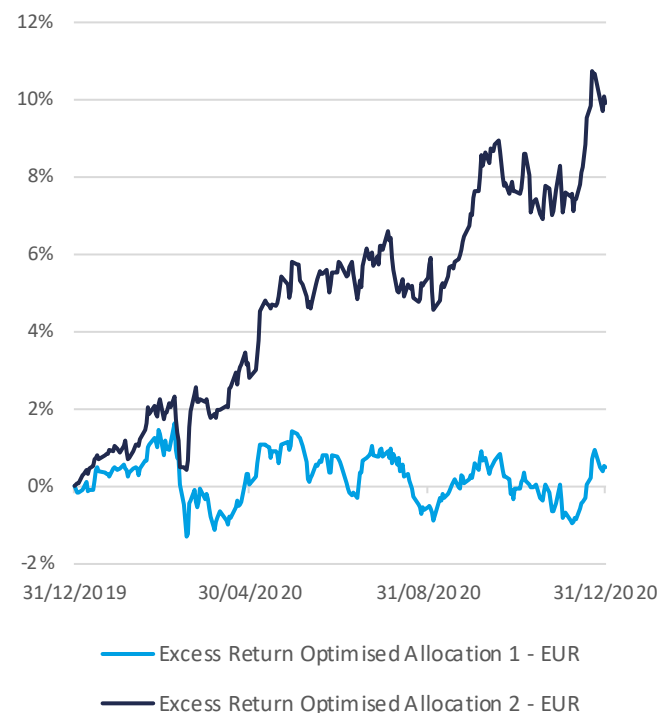
To complete the analysis, we back-tested these two portfolios with comparable risk budgets for the year 2020, based on historical data. The level of ex-ante risk is similar for these two optimisations. However, through this simulation, one can see that the portfolio performances are significantly different. Optimisation 1 delivers a performance close to that of the benchmark while optimisation 2 delivers an outperformance close to 10%.

Chart - Performance in 2020



Source: CPR AM

Chart - Excess Return EUR – Optimised allocations



Source: CPR AM

These simulations demonstrate that a purely quantitative risk approach - while necessary to build a robust portfolio - is not sufficient. A manager's qualitative input is essential to build the most relevant allocations.

The thematic allocation tactical views are derived from a broad qualitative process which, within CPR AM, brings together all of the company’s fund managers every month. This monthly discussion on macro risks serves to define a certain number of scenarios over a three-month horizon, and will soon be enriched with a view on sectors and style factors. The purpose is to have a unified view at a company level on the sectors that are deemed to be the most buoyant and those that will be penalised, depending on the market situation. These views can be integrated as a constraint into the tactical allocation optimisation performed through a quantitative approach.

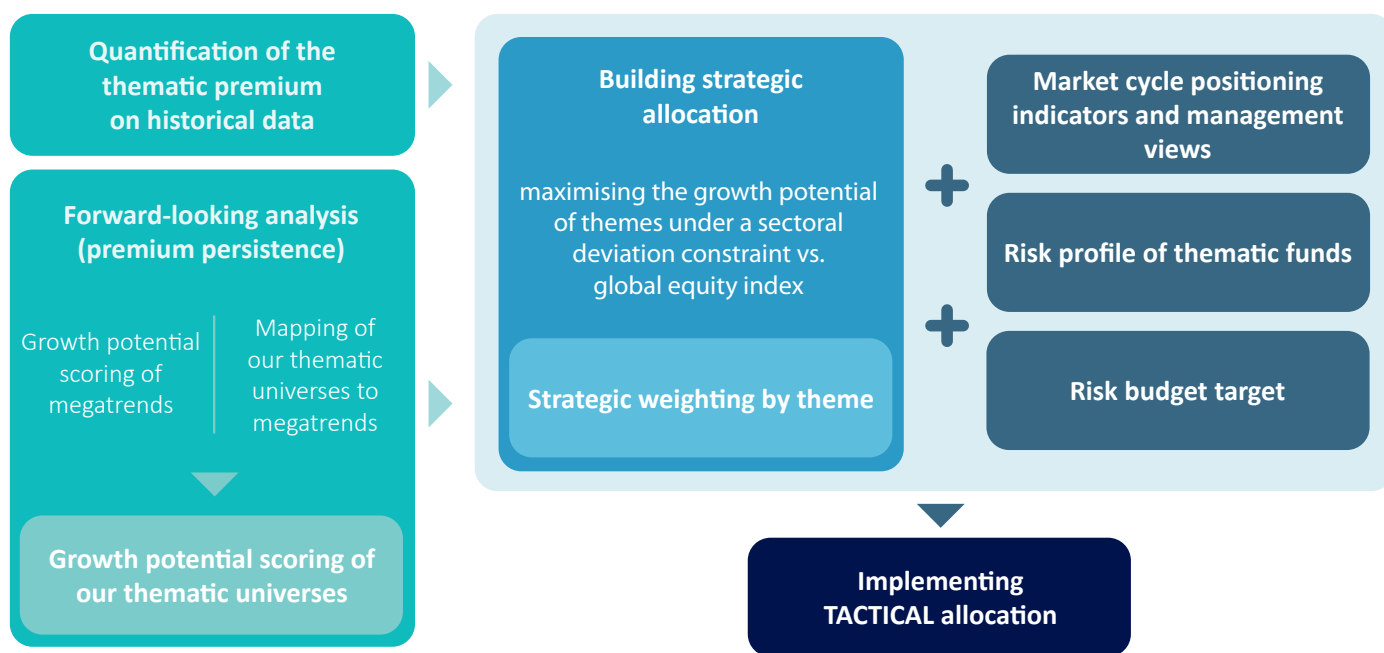
## Rooted in the real economy

Tactical allocation decisions are by nature rooted in the real economy. In 2020, the low interest rate environment encouraged managers to focus on growth stocks such as tech companies. Today’s upward pressure on interest rates is more likely to lead to an overweighting of short duration stocks.

Political events also have an important influence and one must be able to adapt thematic allocation accordingly. Since the beginning of the year, the Chinese government’s desire to regulate the tech giants has led to a 50% drop in the sector’s valuations in China. If US President Joe Biden also decides to take on the GAFAs in an anti-trust battle, a similar scenario could occur in the United States. Another example is the stricter regulatory framework for domestic education in China, which has driven down valuations. As a result, the managers of the diversified CPR Invest - Smart Trends fund have temporarily decided to reinvest their equity exposure elsewhere.

The manager’s tactical input into thematic allocation is therefore key to distort the strategic allocation in order to build portfolios that are consistent with the market cycle.

Diagram: Thematic allocation process overview



# CONCLUSION

## THEMATIC ALLOCATION ADJUSTED ACCORDING TO YOUR NEEDS

### A new solution offer for CPR AM

This framework for thematic allocation reinforces the processes of CPR Invest - Megatrends, our first thematic allocation fund, and CPR Invest - Smart Trends, the first multi-asset fund whose equity allocation is built with thematic funds.

Megatrends leverages the five megatrends of CPR's thematic funds - namely demographic change, technological innovation, the fight against inequality, the fight against climate change and urbanisation. Unlike most thematic funds of funds, the managers of Megatrends follow a dynamic investment approach. They compare the valuation, growth, volatility and style profiles of each in-house thematic fund in order to adjust their allocation according to the main market scenario, and may also tactically use external thematic assets to complete their allocation.

**CPR AM's new thematic investing framework presented in this White Paper generalises our Megatrends fund's dynamic investment approach. The challenge is to base the extraction of the thematic premium through an allocation of thematic funds on a forward-looking analytical framework rather than on historical simulations.**

The new framework presented in this White Paper is also more flexible to meet the needs of each client. The strategic allocation of themes over a three-to-five year horizon is supplemented by a tactical allocation that can be adapted to specific requirements. It is possible to integrate more funds, to better cover some risks, or to adjust the tracking error allowance according to the target risk profile.

This approach, which is based on the observation and evaluation of prospective thematic premiums, thus complements the two main types of process already in use on the market: a purely fundamental approach to stock selection and a multifactor quantitative approach. This is a major development for thematic allocation, which incorporates a greater advisory dimension.

CPR AM already responds to specific requests from investors who wish to complete their portfolio allocation by adding a given theme. **With this new framework, we are now designing tailor-made, robust and sustainable thematic investing solutions, which can be implemented via funds, mandates, investment advice, or as an underlying asset in structured products.**

# IN COLLABORATION WITH

## ● Research & Strategy teams



Jérémie Bannier,  
Financial Engineer



Bastien Drut,  
Chief Thematic Macro Strategist



Noémie Hadjadj-Gomes,  
Head of Research

## ● Portfolio Management teams



Jean-Marie Debeaumarché, CFA,  
Multi-Asset Portfolio Manager



Guillaume Uettwiller,  
Thematic Equity Portfolio Manager

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