

## EIOPA launches a consultation for the 2020 review

This second review is part of the Directive 2014/51/EU which had amended the Solvency II Directive (2009/138/EU). It is particularly meant to reconsider the long-term guarantees that had been introduced in 2014 to reduce the evaluation of certain insurance obligations under pillar 1 of Solvency II.

The SCR calculating parameters under the standard formula are also being reviewed. The review of the interest rate risk sub-module is a critical issue in the standard formula's review. The European Commission has also asked EIOPA to reconsider the capital requirement for long-term investments.

### Some parts of the long-term guarantees package are expected to change

#### EIOPA plans to alter the interest rate curve extrapolation method

##### Reminder of the current extrapolation method

The interest rates used to discount insurers' obligations are deducted from the prices of financial instruments traded on markets, but for very long horizons, there is no market that is deep, liquid, and transparent enough to assess the rate levels in a meaningful way.

EIOPA has chosen the so-called Smith-Wilson method to extrapolate rate levels past the **Last Liquid Point (LLP)**.

For each currency, very-long-term rates are extrapolated based on

- the rates or prices of liquid market instruments whose maturity is less than the LLP (for most currencies, these are fixed-rate 6-month swaps),
- an **Ultimate Forward Rate, UFR**, and
- a point of convergence where instant rates converge on the UFR. This point of convergence is based on the currency and is equal to the higher of 60 years or the LLP + 40 years.

Directive 2014/51 set the LLP of the euro curve at 20 years. The point of convergence is therefore set at 60 years.

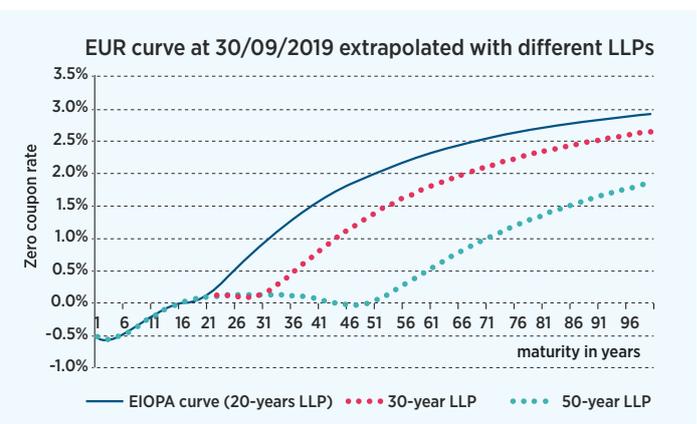
Since 2017, the UFR has been determined every year, based on two components, the expected real rate and the expected inflation rate, while varying by no more than 15 basis points from year to year. Thus, for the euro, the UFR was set at 3.90% for 2019 and 3.75% for 2020.

The extrapolation method that is used underestimates the liabilities of insurers with very long-term euro-denominated obligations. Although the UFR has dropped by 15 basis points each year since 2017, extrapolation with the Smith-Wilson method means applying discount rates substantially higher than the swap rates currently being observed for 20-to-50-year maturities.

Furthermore, the spread between the 15-year swap rate and 20-year swap rate (the last two market baselines used) substantially affects the assessment of very-long-term obligations. Thus, in some swap curve distortion configurations, hedging that is meant to improve the balancing of asset and liability flows past 20 years is not necessarily effective at reducing variations in Solvency II net assets. The current extrapolation method therefore does not always encourage improvements in risk management.

EIOPA is exploring several solutions to mitigate these shortcomings, including setting the LLP at 30 years or 50 years for the euro curve. These two options are possible because the EUR 25-, 30-, 40- and 50-year swap maturities meet the definition of deep, liquid, transparent markets.

In the current environment, taking into account observed rates for higher-maturity financial instruments leads to a significantly lower risk-free rate curve past 20 years...

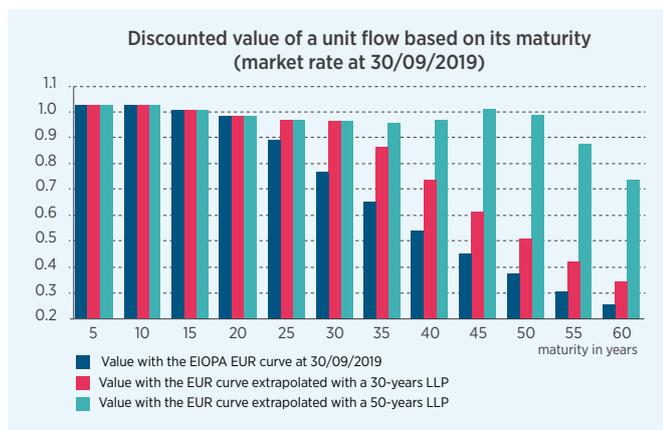


Source: EIOPA, Amundi AM calculations, data as of 30/09/2019

...causing an increase in the discounted value of long-term liabilities and worsening insurer solvency ratios.

Under the market conditions of late September 2019, with a UFR of 3.90%, a flow of €100 at 40 years is valued at €54 with an LLP of 20 years, €77 with an LLP of 30 years, and €96 with an LLP of 50 years.

# EIOPA launches a consultation for the 2020 review



Source: EIOPA, Amundi AM calculations, data as of 30/09/2019

The impact on the solvency ratio varies greatly by country, with German and Dutch insurers being hurt the most. With the accounting positions of late 2018, for the German market, applying a 30-year LLP would reduce the solvency ratio from 457% to 347%, and a 50-year LLP would bring it down to 274%.

For the Netherlands, a 30-year LLP would cut that ratio from 212% to 144%, and 50-year LLP would reduce it to 92%. For the European market as a whole, the consequences would be lower; a 30-year (or 50-year, respectively) LLP would bring the solvency ratio down from 252% to 223% (or 203%, respectively)<sup>1</sup>.

EIOPA is introducing a new extrapolation method that could replace the Smith-Wilson method currently used for all currencies. This method consists of extrapolating forward rates by using the UFR and Last Liquid Forward Rate (or LLFR).

There are two different segments for building the rate curve:

- Until the First Smoothing Point (FSP), set at 20 years for the euro, "zero-coupon" rates are calculated step by step, based on the swap rates observed on the market (bootstrapping method), and for swap maturities that do not meet the DLT criterion (deep, liquid, transparent market), zero-coupon rates are interpolated with the assumption of a constant forward rate between the two liquid maturities at the boundaries.
- Past the FSP, extrapolation is defined based on forward rates by a function that combines the UFR and LLFR. For the euro, the LLFR is a weighted average of the 20-, 25-, 30-, 40- and 50-year forward rates. The weight assigned to each maturity reflects the liquidity of its swap relative to the liquidity of the swaps across all five maturities. Zero-coupon rates are then easily deducted from the forward rates.

EIOPA applied this alternative method to euro swap rates in late 2018. For longer maturities than 20 years, the method leads to a slight decrease in the risk-free rate curve relative to the curve defined by the Smith-Wilson method with a 20-year LLP, but it turns out to be higher than that attained with a 30-year LLP.

If the extrapolation method used for the 2020 review of Solvency II does not involve a 50-year LLP, EIOPA wants that among the analysis carried out by insurers in the framework of Pillar 2, they integrate the sensitivity of the lag of the LLP at 50 years.

However, EIOPA notes that extrapolation methods that rely more broadly on market data could increase the volatility of Solvency II net assets.

## EIOPA recommends allowing the diversification of risks between portfolios that apply Matching Adjustment (MA) rules and other activities of the insurer

As a reminder, MA can only be applied to a portfolio of obligations that is managed separately from other activities, which is assigned an asset portfolio whose cash flows match those of its liabilities. MA makes it possible to take into account the yield of the bond portfolio to determine the discount rate of the obligations.

Applying MA requires approval from the supervisory authority, and in practice, as of late 2017, it was used by only 34 entities (19 in the United Kingdom and 15 in Spain), but 14 of those entities, whose actuarial liabilities accounted for 10% of all EEA actuarial liabilities, would have had an SCR ratio less than 100% without it<sup>2</sup>.

Article 217 of Delegated Regulation (EU) 2015/35 which explains how to calculate SCR in the case of ring-fenced funds and matching adjustment portfolios does not allow any risk diversification between ring-fenced funds or matching adjustment portfolios and the rest of the insurance undertaking.

EIOPA proposes eliminating this restriction for MA portfolios, but does not recommend loosening the conditions for applying MA.

## EIOPA is exploring many options to improve Volatility Adjustment (VA)

This other part of the long-term guarantees package is much more commonly used. As of late 2017, nearly 700 entities across 23 countries, whose actuarial liabilities accounted for 66% of the EEA's total actuarial liabilities, applied it<sup>2</sup>, because unlike MA, its application is not subject to asset-liability matching criteria.

VA is a risk-free rate curve adjustment that is meant to offset some of the impact of the bond portfolio's volatility. However, in its current definition, it has been widely criticised.

The consultation document gives several options for changes that may be combined with one another to improve VA. One of the options is to introduce application ratios to take into account the insurer's asset allocations and the illiquidity of its liabilities.

1. Figures provided by EIOPA in the consultation on the 2020 review following a request for information among 299 insurance and reinsurance companies in the first half of 2019.

2. Figures provided by EIOPA in its "Report on long-term guarantees measures and measures on equity risk 2018" published in December 2018.

EIOPA recommends overhauling the interest rate risk sub-module for calculating market SCR using the standard formula.

**In EIOPA's view, the current configuration of the standard formula underestimates interest rate risk**

#### Reminder of the stresses currently applied to yield curves to calculate interest rate SCR

The yield curve stress scenarios use relative variations:

- In the rising interest rate scenario, a declining relative shock by maturity, ranging from +70% for one-year maturities to +20% for the longest maturities, however, **a minimum 1% increase is applied to all maturities.**
- In the decreasing interest rate scenario, a declining relative shock by maturity, ranging from -75% for one-year maturities to -20% for the longest maturities, with **no stress applied to negative rates.**

Two further years of rate changes have done nothing to discredit the approach that EIOPA had recommended in February 2018 to define up and down yield curve stresses on which the interest rate SCR is calculated<sup>3</sup>. The proposals made in 2018 were not adopted, because the review of the interest rate sub-module did not fall within the review scope specified by the Commission.

EIOPA had recommended defining interest rate stresses by combining a relative shift and an additive shock. It had noted that for the rate down scenario, the shocks that were set were much larger than those defined for the current approach.

If it is adopted, the new rate shock configuration will therefore be more negative than the current calibration for insurers with long-term liabilities whose asset portfolio shows a shorter duration.

The review of the risk-free rate curve extrapolation method has led EIOPA to extend the table of rate stress parameters past the 20-year mark, in the event that the option to offset LLP were to be adopted.

3. See "EIOPA recommendations for the 2018 review of the Solvency II framework", published by Amundi in May 2018

#### EIOPA recommendation for interest rate shocks

For the rising interest rate scenario, the Up curve is defined as

$$r^{\text{Up}}(m) = r(m) * (1 + s(m)^{\text{Up}}) + b(m)^{\text{Up}}$$

For the declining interest rate scenario, the Down curve is defined as

$$r^{\text{Down}}(m) = r(m) * (1 - s(m)^{\text{Down}}) - b(m)^{\text{Down}}$$

Where, for different maturities  $m$  (in years):

- $r(m)$  = risk-free rate at maturity  $m$ ,
- $r^{\text{Up}}(m)$  = rate at maturity  $m$  in the rising interest rate scenario
- $r^{\text{Down}}(m)$  = rate at maturity  $m$  in the declining interest rate scenario
- $s(m)^{\text{Up}}$ ,  $b(m)^{\text{Up}}$ ,  $s(m)^{\text{Down}}$ ,  $b(m)^{\text{Down}}$  vectors shown in the table

If the Last Liquid Point is kept at 20 years, the values of the **s vectors** are linearly interpolated between 20 and 90 years, and the values of the **b vectors** are linearly interpolated between 20 and 60 years and are zero after 60 years.

EIOPA has extended the table of shock parameters from 20 to 30 (or 50, respectively) years if the option to take the LLP to 30 (or 50, respectively) years were adopted.

Maturity (m)	Vector s Up	Vector b Up	Vector s Down	Vector b Down
1	61%	2.14%	58%	1.16%
2	53%	1.86%	51%	0.99%
3	49%	1.72%	44%	0.83%
4	46%	1.61%	40%	0.74%
5	45%	1.58%	40%	0.71%
6	41%	1.44%	38%	0.67%
7	37%	1.30%	37%	0.63%
8	34%	1.19%	38%	0.62%
9	32%	1.12%	39%	0.61%
10	30%	1.05%	40%	0.61%
11	30%	1.05%	41%	0.60%
12	30%	1.05%	42%	0.60%
13	30%	1.05%	43%	0.59%
14	29%	1.02%	44%	0.58%
15	28%	0.98%	45%	0.57%
16	28%	0.98%	47%	0.56%
17	27%	0.95%	48%	0.55%
18	26%	0.91%	49%	0.54%
19	26%	0.91%	49%	0.52%
20	25%	0.88%	50%	0.50%
60	22%	0%	33%	0%
90	20%	0%	20%	0%

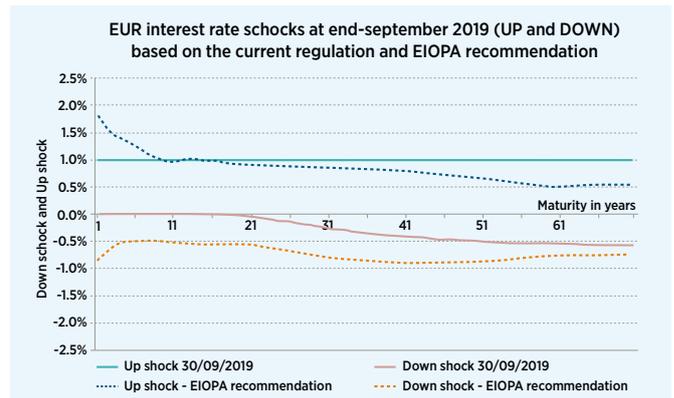
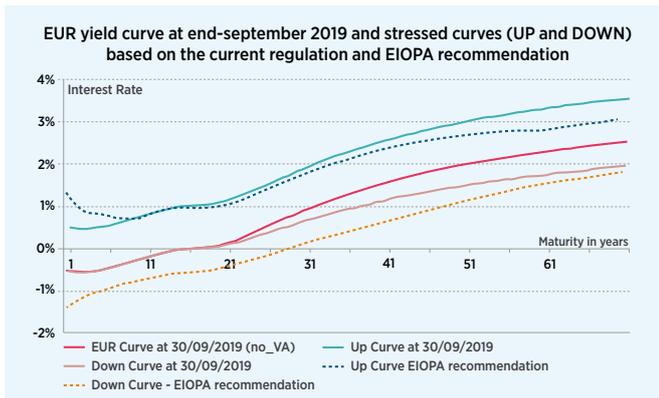
Source: EIOPA, Consultation Paper on the Opinion on the 2020 review of Solvency II, 15/10/2019

# EIOPA launches a consultation for the 2020 review

## Illustration in a low interest rate environment: EUR rates at end-September 2019

The left-hand chart on the following page shows the risk-free yield curve for the euro as at the end of September 2019, and the Up and Down stress scenarios with the current calculation and with the new one recommended by EIOPA. The right-hand chart shows the size of the corresponding interest rate shocks.

The recommended configuration for the Down rate scenario increases the amplitude of shocks for all maturities. On the other hand, for the Up rate scenario, although the recommended formula leads to larger shocks for shorter maturities, the shocks are close to 1% (current minimal shock) for maturities between 9 and 16 years, and they continue to decline for longer maturities.



Source: EIOPA, Amundi AM calculations, data as at 30/09/2019 - Information provided as an illustration only

The following table shows how changing the stress calibrations impacts capital requirements in the low interest rate environment prevailing at the end of September 2019. For the 10-year maturity, for instance, for the Up stress scenario, the capital charge is only slightly different, because it goes from 9.7 to 9.5 for a cashflow of 100, whereas for the Down stress scenario, the capital charge, which was zero, rises to 5.4.

Cashflow maturity	Discounting of 100 with the EUR curve at 30/09/2019	SCR amount for the Up rate scenario		SCR amount of the Down rate scenario	
		with current stress parameters	with the new stress parameters recommended by EIOPA	with current stress parameters	with the new stress parameters recommended by EIOPA
2 years	101	2.0	3.1	0.0	1.5
5 years	103	5.0	6.7	0.0	2.7
10 years	103	9.7	9.5	0.0	5.4
15 years	100	13.9	13.6	0.0	8.8
20 years	98	17.7	16.1	0.5	11.3

Source: EIOPA, Amundi AM calculations, data as at 30/09/2019 - Information provided as an illustration only

For longer maturities, the consequences of altering the calibration of the capital requirement must be analysed in a way that takes into account how changing the extrapolation method affects the valuation of obligations. The two tables below illustrate the consequences of shifting the LLP for a flow of €100 at 30-year and 40-year maturities in the market context of the end of September 2019.

### Flow of 100 at 30-year maturity

Discounting with the EUR curve at 30/09/2019	extrapolated with a 20-year LLP		extrapolated with a 30- or 50-year LLP	
	77		96	
Interest Rate SCR amount	with current stress parameters	with the new stress parameters recommended by EIOPA	with current stress parameters	with the new stress parameters recommended by EIOPA
in an Up rate scenario	20	18	25	19
in an Down rate scenario	6	20	1	15

Source: EIOPA, Amundi AM calculations, data as at 30/09/2019 - Information provided as an illustration only

## Flow of 100 at 40-year maturity

Discounting with the EUR curve at 30/09/2019	extrapolated with a 20-year LLP		extrapolated with a 30-year LLP		extrapolated with a 50-year LLP	
		54		74		97
Interest Rate SCR amount	with current stress parameters	with the new stress parameters recommended by EIOPA	with current stress parameters	with the new stress parameters recommended by EIOPA	with current stress parameters	with the new stress parameters recommended by EIOPA
in an Up rate scenario	18	15	24	16	32	25
in an Down rate scenario	9	23	6	21	1	14

Source: EIOPA, Amundi AM calculations, data as at 30/09/2019 - Information provided as an illustration only

For the Up rate scenario, shifting the LLP toward a higher maturity tends to increase the SCR (by increasing the discounted value of the flow), but the new SCR calibration tends to reduce it (the shock is less than 1%). In a Down scenario, the opposite is true; shifting the LLP toward a higher maturity tends to reduce the SCR (the discounted value of the flow is lower), but the recommended calibration for the SCR tends to increase it (the shock is bigger).

## EIOPA does not recommend any major changes for the other sub-modules of market risk

### Credit risk

Among the requests made to EIOPA by the European Commission is the recommendation of an appropriate calibration of credit risk and equity risk for entities that apply the standard formula for market SCR when insurance activities allow for long-term investment.

EIOPA is considering several options for defining a special, more beneficial treatment for a subset of loans and debt securities termed “long-term investments”.

Provided that the ownership criteria are similar to those defined for long-term equity investments, or a planned alternative of holding to maturity, the credit SCR of this subset of assets may be reduced. As the insurer would be able to hold those loans and bonds, it would remain exposed to default risk, but the volatility of the spread observed for these assets could only partially be taken into account when calculating the capital requirement.

Ultimately, EIOPA believes that it is unnecessary to add an additional system for interest rate instruments, as MA can already be applied for such assets.

### Equity risk

The Commission has requested a review of all provisions that define the capital requirements regarding equity investments for entities that apply the standard formula.

EIOPA recommends eliminating the special “**Duration-based equity risk**” sub-module.

These provisions relate to equities held to meet occupational retirement obligations. The insurance undertaking may apply an equity SCR of 22%, after receiving approval from its supervisory authority. The conditions for applying this favourable treatment are restrictive, because an average obligation duration longer than twelve years is required, and the asset-liability management process must show that holding shares over such a period is possible.

EIOPA believes that allowing this system to co-exist with the provisions of “**Long-term equity investments**” instituted by Regulation 2019/981 of 8 March 2019 would lead to needless complexity. Because the two sub-modules are meant to define a more beneficial treatment for equities held over a long period, eliminating the more restrictive of the two, which had only been very rarely used anyway, would have no consequences.

EIOPA wishes to add to the criteria required for applying the “Long-term equity investments” sub-module. The subset of equities in question should be highly diversified, and should not include equities of entities that belong to the same group as the insurer.

### Reminder of the criteria to meet in order to categorise equity investments as “Long-term equity investments”

- Only equities listed in the EEA and unlisted equities of companies having their head office in an EEA member country are eligible.
- The scope of equities that benefit from this beneficial treatment must be identified. It must belong to an asset portfolio assigned to identified activities, managed separately from other insurance activities. The willingness to retain this sub-portfolio of equities must be written into the investment policy, asset-liability management, and risk management.
- The average holding period of the equities in the scope must be longer than 5 years\*.
- The insurer’s solvency and liquidity as well as the asset/liability management process ensure that, at all times, the sub-portfolio of equities will not be subject to forced sales for at least 10 years (including under stress scenarios).
- Equities held in a UCI can also benefit from the 22% treatment.

(\*) If the average holding period in the subset of long-term investments is less than 5 years, the insurer must not sell any equity from that subset until the average holding period exceeds 5 years.

EIOPA does not recommend loosening the criteria to qualify for certain holdings which are considered **strategic investments**, and are thereby eligible for a capital charge of 22%. The investment's lower-volatility condition is being retained; EIOPA proposes only to specify its evaluation method. The minimum holding percentage of 20% is also confirmed, and a risk diversification condition has been added: The value of the strategic investment must not be significantly correlated with the value of the insurance entity that owns it.

Current calibrations for investments in infrastructure projects and equities of infrastructure companies are not being revised.

Furthermore, EIOPA recommends preserving the composition of the index used to calculate symmetrical adjustment<sup>4</sup> added to central equity shock (39% for equities listed in an OECD country and 49% for other equities).

## Real estate risk

As for real estate assets, while some players believe that their risk is overstated by the current calibration, as it is based on historical prices from the British market, EIOPA warns that there is not enough data to make a definitive judgement. It is continuing its analysis of different possible segmentations. For instance, there could be different risk calibrations depending on which country the property is located in, or how it is used (residential, offices, industrial, etc.).

## Risk correlation

Regarding the aggregation of various market risks, EIOPA has approved the coexistence of two correlation matrices (one applied when the scenario chosen by the insurer is an increase in interest rates, and the other used when the chosen scenario is a decrease in rates) and is not proposing to change its coefficients.

Likewise, no changes are recommended for the correlation matrix applied to calculate the basic SCR by aggregating the market, counterparty, life underwriting, health underwriting, and non-life underwriting risks.

## What next?

The consultation remains open until mid-January 2020. After analysing the respondents' comments, EIOPA is to give its final opinion to the Commission in late June.

Some recommendations will probably be refined, while others may be substantially altered because they do not meet insurers' expectations. This is, for instance, the case when the EIOPA recommendation for calculating the risk margin. Although the low-rate environment tends to increase this component of Solvency II balance sheet liabilities (through a lower discount effect), EIOPA wishes to keep the calibration of the cost of capital used for its calculation unchanged.

The Commission will be able to make use of EIOPA's work during the second half of 2020, to outline its proposal by the end of that year.

4. Symmetrical adjustment is meant to be counter-cyclical; it is calculated using the level of an equity index (representing insurers' equity investments) on the date in question and the index's historical average over the past three years. It is bounded by a minimum of -10% and a maximum of +10%.

## Contacts

### Sylvie Nonnon

Specialist in Insurance Solutions Engineering

+33 1 76 33 83 02

sylvie.nonnon@amundi.com

### Jean-Renaud Viala

Head of Insurance Solutions Engineering

+33 1 76 32 18 83

jean-renaud.viala@amundi.com

### Material reserved for professional investor only

Amundi Asset Management's range of services is in line with Solvency II directive. It may evolve over time. It will be subject to agreements between the various participants within its implementation framework.

In the European Union this document is solely for the attention of a "Professional" investor as defined in European Directive 2004/39/EC dated 21 April 2004 on markets in financial instruments ("MIFID") or as the case may be in each local regulations and, as far as the offering in Switzerland is concerned, a "Qualified Investor" within the meaning of the provisions of the Swiss Collective Investment Schemes Ordinance of 23 June 2006 (CISA), the Swiss Collective Investment Schemes Ordinance of 22 November 2006 (CISO) as amended and the FINMA's Circular 13/9 on Distribution under the Collective Investment Schemes legislation of 28 August 2013.

In no event may this document be distributed in the European Union to non "Professional" investors as defined in the MIFID or in each local regulation, or in Switzerland to investors who do not comply with the definition of "qualified investors" as defined in the applicable legislation and regulation. This material is not to be distributed to the general public, private customers or retail investors in any jurisdiction whatsoever nor to "US Persons".

This material is communicated solely for information purposes and neither constitutes an offer to buy, nor a solicitation to sell a product and shall not be considered as an unlawful solicitation or an investment advice.

Amundi Asset Management accepts no liability whatsoever, whether direct or indirect that may arise from the use of information contained in this document. Amundi Asset Management can in no way be held responsible for any decision or investment made on the basis of this information.

The information contained in this document is provided at your request and is disclosed to you on a confidential basis only and for the use of the recipient. This information shall not be distributed, copied, reproduced, modified, or translated without the prior written approval of Amundi Asset Management, to any third person or entity in any country or jurisdiction which would subject Amundi Asset Management or any of its products, to any registration requirements within these jurisdictions or where it might be considered as unlawful.

Accordingly, this material is for distribution solely in jurisdictions where permitted and to persons who may receive it without breaching applicable legal or regulatory requirements.

The information contained in this document is deemed accurate as of November 2019. Data, opinions and estimates may be changed without notice.

Amundi Asset Management, French "Société par Actions Simplifiée" - SAS with share capital of €1,086,262,605 - Portfolio Management Company licensed by the AMF (French securities regulator) under no. GP 04000036 Registered office: 90 boulevard Pasteur - 75015 Paris - France - 437 574 452 RCS Paris.

Design and production: Amundi Design Studio - Communication Department - November 2019.