

This document is intended for professional clients in accordance with MIFID  
 N° 128 // October 2, 2023

## ● Topic of the week: When Grain is Under Pressure...

- The FAO Food Price Index has fallen but remains high compared to previous years;
- We identify 4 factors that should contribute to keep them sustainably high;
- The high concentration of grain and fertilizer markets is a risk in a context of increased geopolitical shocks;
- Upside risks stem from China's willingness to improve food security, climate change and the decarbonization of food supply chains;
- This involves significant social issues, in a context where food inflation (real) is higher than inflation in 81% of the world's countries (World Bank).

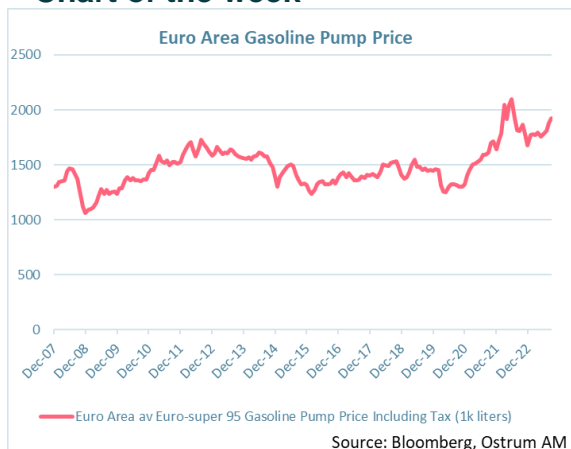


**Axel Botte**  
 Head of Market Strategy  
 axel.botte@ostrum.com

## ● Market review: On the verge

- Yield curve keep steepening;
- Profit taking across risky asset markets as quarter-end looms;
- Disinflation gaining traction in the euro area;
- Dollar eases somewhat, as pressure mounts on the Japanese yen.

## ● Chart of the week



The price of gasoline regularly makes headlines as it appears to be a determining factor in households' perception of inflation.

That being said, a liter of gasoline is close to €2, taxes included, on average in the euro zone. Current levels are close to the highs seen in the first few months of Russia's invasion of Ukraine.

This price is therefore higher than in 2011 when oil reached \$110 per barrel. The rise in crude oil obviously plays a major role, but it is refining margins and Russian diesel export restrictions that seem to explain the current high price levels.



**Zouhoure Bousbih**  
 Emerging market strategist  
 zouhoure.bousbih@ostrum.com



**Aline Goupil- Raguénès**  
 Developed countries strategist  
 aline.goupil-raguenes@ostrum.com

## ● Figure of the week

**84**

Source : Bloomberg

This is the increase in basis points in the yield on 30-year US bonds during the 3<sup>rd</sup> quarter. The 30-year yield is trading at 4.70%.

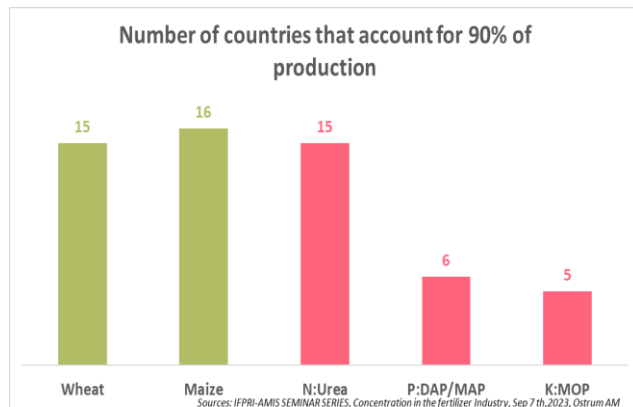
• **Topic of the week**

## When Grain is Under Pressure...

The FAO Food Price Index (real) has fallen by more than 25% since its historic peak in March 2022. However, food prices remain 15% above their 2014-16 levels. The war in Ukraine has entered its second year and is likely to exert further upward pressure on prices. In addition, we identify 4 factors that should contribute to keep them sustainably high: market concentration, China's strong appetite for food security, climate change and the decarbonization of food supply chains.

### High market concentration is a risk in a context of increased geopolitical shocks

The high concentration of grain (and fertilizer) markets poses a geopolitical threat, as revealed by the war in Ukraine. The graph below shows the number of countries accounting for 90% of global cereal and fertilizer production.



90% of world wheat and maize production depends on 15 and 16 countries respectively. For example, the BRICS account for more than a quarter of global cereal production. The same is true for fertilizers, where the supply of phosphate (DAP/MAP) and potash (MOP) is comparatively more concentrated in 6 and 5 countries than the supply of nitrogen (urea) which depends on 15 countries.

The concentration is also geographical for fertilizers. Three countries, China (32%), India (14%) and Russia

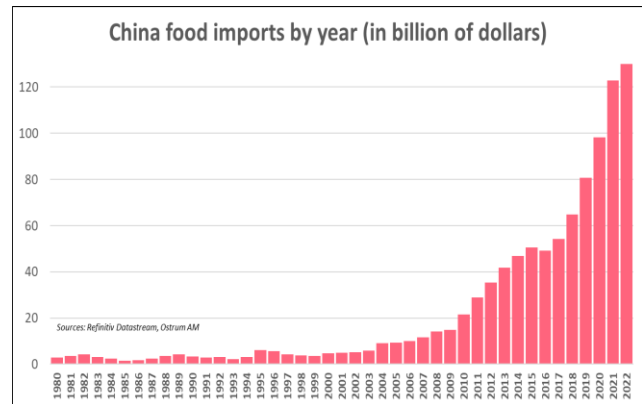
(6%), account for more than 50% of nitrogen supply. For phosphate, China (40%), Morocco (19%) and the US (15%) account for 74% of production. Potash supply is also concentrated in Canada (38%), Russia (24%) and Belarus (19%). The high concentration of markets is a risk in a context of increased geopolitical shocks.

### China's strong demand to feed its pig livestock

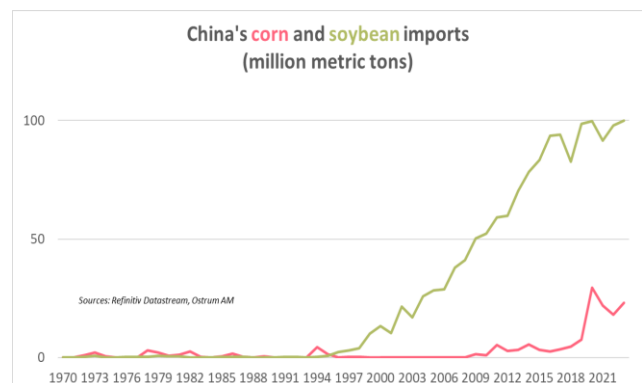
Agricultural production has two main outlets:

- as a basic staples, because of high calorie dependence, especially for poor countries;
- animal feed: 60% of world maize production is for livestock.

China imported \$131 billion worth of food products in 2022, more than double that of 2018, as shown in the chart below.



China's strong appetite for food commodities is largely due to its rapidly growing pig livestock. For example, China imported 4.4 million pigs in 2020, i.e. 40% of world trade! The main challenge for China is now to feed its important pig livestock. The graph below shows the volume of Chinese corn and soybean imports.



The exponential growth of soybean imports reflects the important share (75%) of this oilseed in animal feed. The modernization of the farms, linked to the reconstitution of livestock, subsequently led to a rapid increase in demand for maize. Chinese maize imports reached an all-time high in 2021 at 29.5 million tons, an increase of 658% compared to 2018!

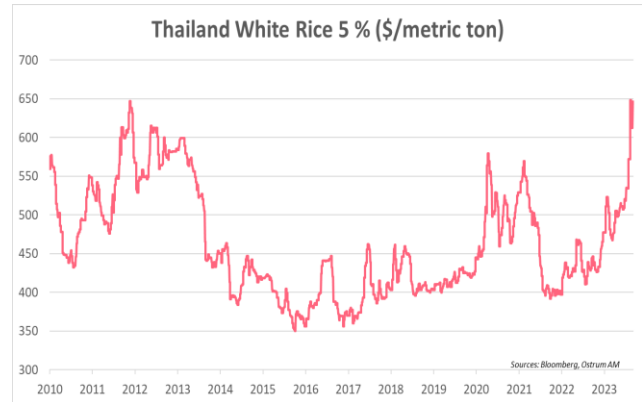
Fears of a maize shortage are the main concerns of Chinese authorities in the medium term. Its main suppliers are the United States, Argentina, Brazil, and Ukraine. China is Ukraine's main trading partner, as it imports its non-GMO maize massively. Uncertainty over the duration of the conflict, as well as continuing high US-China tensions, have increased China's food vulnerability to geopolitical shocks. It is also a factor that is susceptible to exert upward and lasting pressure on world cereal prices. Indeed, there is a risk that high prices for animal feed will lead to a substitution phenomenon fueling the rise in prices, on wheat and rice, mainly intended for basic human food.

## Climate change

Wheat is rare on a global scale, as not all countries have the same geographical, climatic, and agricultural capacities. Cereal production requires half of the world's arable land. It also amounts to half the calories consumed by the 8 billion people in the world.

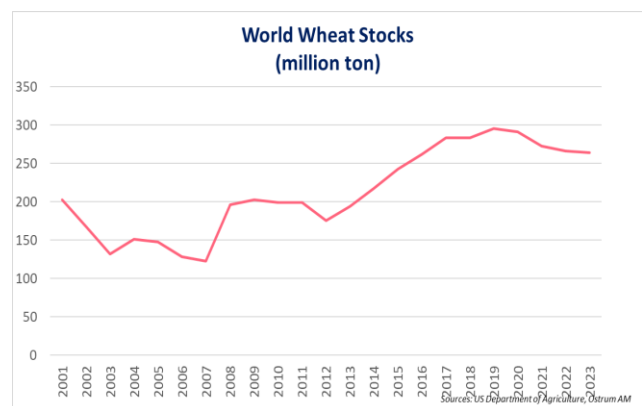
Climatic hazards make agricultural yields more uncertain, and the extreme of weather phenomena increases this uncertainty. According to the US National Administration of Oceans and Atmosphere, there is a 95% chance of a strong El Niño in the first quarter of 2024. The last high intensity El Niño occurred between 2015 and 2016. Brazil and Mexico experienced sharp declines in agricultural production. India was also hit hard. Its sugar production fell by 27% between 2015 and 2017.

This summer, India banned exports of most of its rice varieties, pushing prices to over \$640 per ton, as shown in the chart below.



India accounts for 40% of global rice exports. Asia accounts for 90% of global rice consumption. Food accounts for almost 25% of consumer price indices in the countries of the Area. The recent sharp rise in rice prices has affected inflation rates in several Asian countries. This ties the hands of the region's central banks, which had signaled the end of their rate hike cycles, to support activity.

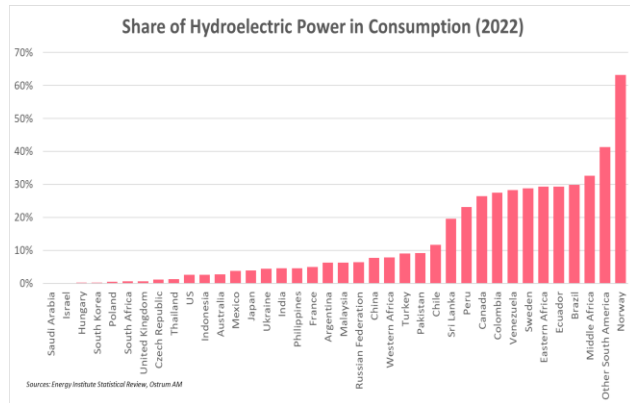
However, historically, the El Niño phenomenon had had a greater impact on global wheat production than rice. Wheat prices have fallen recently, despite Russia's withdrawal from the Black Sea deal, as Ukraine has found new alternatives to sell its wheat. The outlook for wheat prices will therefore depend on the El Niño phenomenon, while global wheat stocks are down nearly 10% from their 2019 peak, as shown in the chart below.



Food inflation remains high in many countries. According to the World Bank, it remains above 5% in 53% of low-income countries, 86% of lower middle-income countries, 64% of higher middle-income countries and 73.2% of high-income economies. This involves social issues, as purchasing powers in many countries are not increasing. Countries in Sub-

Saharan Africa, which are highly indebted and therefore no longer have financial leeway, may face difficulties in feeding themselves.

El Niño also has an energy impact. Indeed, the energy production of some countries comes in part from hydroelectric power, especially in the countries of South America, as shown in the following graph.



Latin America is highly vulnerable to climate change. Thus, in Brazil and Colombia, rainfall should be reduced, these being the two countries most at risk.

## Decarbonization of food supply chains

The food supply chain is a complex network of processes that begins with production and ends with consumption. According to FAO, global food systems are responsible for about a third of greenhouse gas

emissions, mainly agricultural activities, transport, packaging, and waste.

We have seen that climate change is threatening agricultural yields and food security in many countries, such as India. Decarbonizing the food supply chain is therefore essential to mitigate the impact of climate change and achieve the sustainability objectives defined by the UN. However, this transition has an economic cost, since it implies a total change in the production processes, and a social cost, because of the change in consumer behavior that it induces, such as reducing meat consumption or favoring local production.

## Conclusion

**Food prices are expected to remain persistently high, due to the high concentration of grain and fertilizer markets, China's strong appetite to feed its large pig livestock, climate change that exacerbates weather events such as El Niño, and decarbonization of food supply chains. This implies important social issues, since purchasing powers are not increasing, especially in poor countries.**

Zouhoure Bousbih et Anatole Dumoulin

• **Market review**

## On the verge

**Upward pressure on bond yield leads to profit-taking on risky assets, especially as a government shutdown in the United States appeared inevitable and oil is causing concern among market participants.**

Asset allocation shifts and profit-taking tend to accelerate as quarter-end close nears, reversing recent trends on most markets. Crude oil prices and the US dollar hence eased late last week which helped curb the trend in both US and European long-term bond yields. The yield on 10-Yr T-note, however, keeps trading above 4.50%. Faster-than-anticipated disinflation in the euro area pushed Bund yields under the 2.90% threshold. In turn, investors trimmed short equity positions so that the Euro Stoxx 50 remains around the 4,200 mark, the lower end of the trading range which prevails since the start of the year. On sovereign debt markets, the ongoing budget discussions are weighing on the Italian BTP spread. The resilience of credit spreads is also being tested by higher risk-free rates. Risk and term premiums are being rebuilt to the detriment of growth stocks in many equity markets, in particular large caps (for instance luxury stocks in Europe) on which investors had latent capital gains to capture.

While the shutdown was finally avoided thanks to a revised stop-gap bill drafted by the House, the slight downward revision to GDP growth for the 2<sup>nd</sup> quarter (2.1% vs. 2.2%) highlights the surprisingly moderate pace of service spending (+1%). Business investment, on the other hand, was more robust. Corporate spending on structures is fueled by increasing fiscal deficits. The available data suggests a rebound in household consumption despite the recent acceleration in gasoline prices. The recovery in housing prices continues despite 30-year mortgage rates above 7.70%. Existing home sales remain near historical low levels due to low inventories, so that incremental housing demand is for newly built properties, at ever higher prices. The Fed cannot ignore the impact of housing on the cost of living but seems to rule out active sales from its mortgage-backed securities portfolio.

In the euro area, disinflation accelerated to 4.3% in

September. Service prices moderated, falling from 5.5% to 4.7% and thus contributing to the decline in core inflation to 4.5% year-on-year.

As concerns financial markets, the trend in bond yields seems to dictate the direction of most asset prices. The “disinversion” of yield curves has accelerated since August. The violent increase in long-term yields reflects the rebuilding of a term premium. This brutal transition has immediate impacts on the valuation of growth stocks while credit or emerging debt, which had held up well for several weeks, are now undergoing profit taking.

On the US bond market (with T-note above 4.50%), the market overreaction appears likely to ease in the 4<sup>th</sup> quarter as US growth slows. That said, the higher-for-longer rate scenario and high federal deficits on one hand and a bullish bond consensus on the other hand look like a perfect storm for bond markets. T-bills yielding more than 5.50% remain hard to beat. In the euro area, the German Bund is participating in this steepening movement approaching the 3% threshold. The 30-year OAT is way trading above this threshold for the first time since 2011. The 30-year OAT, recently shunned by investors at auctions, indeed offers 3.90%. All sovereign spreads are trending upwards in the wake of the rise in long-term Bund yields. The current fiscal forecasts in Italy have reignited tensions on the BTP spread which hit a high at 200 bp last week. The return to Maastricht's 3% deficit limit has been postponed by one year even as Brussels intends to reintroduce fiscal rules in 2024, a few months before the European elections. The upcoming budget and political sequence will likely be conducive of volatility.

As for credit, the widening in spreads looks traceable to profit taking. Spreads widen by 7 to 9 bp on investment grade and a bit more on high yield (+11 bp). Funds are experiencing withdrawals as quarter-end approaches. CDS spreads also widened as the iTraxx main rose beyond 80 bp. Emerging debt, remarkably stable lately, ended the quarter on a less positive note as the spread increased to 439 bp. On top of the familiar risky names, there were selling pressure on Gulf bonds, even against the backdrop of high oil prices. Finally, on equities, the decline eased before the close but growth stocks remain under pressure. European banks fared relatively well while utilities plunged 7% in the United States.

**Axel Botte**

## ● Main market indicators

<b>G4 Government Bonds</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
EUR Bunds 2y	3.22%	-2	+23	+45
EUR Bunds 10y	2.88%	+8	+33	+30
EUR Bunds 2s10s	-34.6bp	+10	+10	-14
USD Treasuries 2y	5.1%	-2	+23	+68
USD Treasuries 10y	4.63%	+10	+45	+76
USD Treasuries 2s10s	-47.3bp	+12	+23	+8
GBP Gilt 10y	4.49%	+16	+6	+81
JPY JGB 10y	0.78%	+4	+10	-16
<b>€ Sovereign Spreads (10y)</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
France	55bp	+1	-1	+1
Italy	189bp	+3	-5	-24
Spain	108bp	+0	-2	-1
<b>Inflation Break-evens (10y)</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
EUR 10y Inflation Swap	2.5%	-10	-9	-5
USD 10y Inflation Swap	2.63%	-1	+7	+10
GBP 10y Inflation Swap	3.93%	-7	-4	+2
<b>EUR Credit Indices</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
EUR Corporate Credit OAS	153bp	+5	-3	-14
EUR Agencies OAS	76bp	+4	+0	-3
EUR Securitized - Covered OAS	85bp	+4	0	+1
EUR Pan-European High Yield OAS	447bp	+13	-6	-65
<b>EUR/USD CDS Indices 5y</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
iTraxx IG	81bp	+3	+11	-10
iTraxx Crossover	433bp	+14	+41	-41
CDX IG	75bp	+2	+11	-7
CDX High Yield	484bp	+36	+60	+0
<b>Emerging Markets</b>	<b>02-Oct-23</b>	<b>1wk (bp)</b>	<b>1m (bp)</b>	<b>2023 (bp)</b>
JPM EMBI Global Div. Spread	431bp	+8	+11	-22
<b>Currencies</b>	<b>02-Oct-23</b>	<b>1wk (%)</b>	<b>1m (%)</b>	<b>2023 (%)</b>
EUR/USD	\$1.052	-0.651	-2.520	-1.7
GBP/USD	\$1.214	-0.557	-3.818	0.5
USD/JPY	JPY 150	-0.621	-2.230	-12.5
<b>Commodity Futures</b>	<b>02-Oct-23</b>	<b>-1wk (\$)</b>	<b>-1m (\$)</b>	<b>2023 (%)</b>
Crude Brent	\$92.6	\$0.7	\$4.8	13.4
Gold	\$1 834.1	-\$81.8	-\$108.6	0.6
<b>Equity Market Indices</b>	<b>02-Oct-23</b>	<b>-1wk (%)</b>	<b>-1m (%)</b>	<b>2023 (%)</b>
S&P 500	4 288	-1.14	-5.04	11.7
EuroStoxx 50	4 153	-0.36	-3.04	9.5
CAC 40	7 106	-0.25	-2.61	9.8
Nikkei 225	31 760	-2.81	-2.91	21.7
Shanghai Composite	3 110	0.84	-0.81	0.7
VIX - Implied Volatility Index	18.40	8.88	40.57	-15.1

Source: Bloomberg, Ostrum AM

## Additional notes

### Ostrum Asset Management

Asset management company regulated by AMF under n° GP-18000014 – Limited company with a share capital of 50 938 997 €. Trade register n°525 192 753 Paris – VAT : FR 93 525 192 753 – Registered Office: 43, avenue Pierre Mendès-France, 75013 Paris – [www.ostrum.com](http://www.ostrum.com)

This document is intended for professional, in accordance with MIFID. It may not be used for any purpose other than that for which it was conceived and may not be copied, distributed or communicated to third parties, in part or in whole, without the prior written authorization of Ostrum Asset Management.

None of the information contained in this document should be interpreted as having any contractual value. This document is produced purely for the purposes of providing indicative information. This document consists of a presentation created and prepared by Ostrum Asset Management based on sources it considers to be reliable.

Ostrum Asset Management reserves the right to modify the information presented in this document at any time without notice, which under no circumstances constitutes a commitment from Ostrum Asset Management.

The analyses and opinions referenced herein represent the subjective views of the author(s) as referenced, are as of the date shown and are subject to change without prior notice. There can be no assurance that developments will transpire as may be forecasted in this material. This simulation was carried out for indicative purposes, on the basis of hypothetical investments, and does not constitute a contractual agreement from the part of Ostrum Asset Management.

Ostrum Asset Management will not be held responsible for any decision taken or not taken on the basis of the information contained in this document, nor in the use that a third party might make of the information. Figures mentioned refer to previous years. Past performance does not guarantee future results. Any reference to a ranking, a rating or an award provides no guarantee for future performance and is not constant over time. Reference to a ranking and/or an award does not indicate the future performance of the UCITS/AIF or the fund manager.

Under Ostrum Asset Management's social responsibility policy, and in accordance with the treaties signed by the French government, the funds directly managed by Ostrum Asset Management do not invest in any company that manufactures, sells or stocks anti-personnel mines and cluster bombs.

Final version dated 02/10/2023

### Natixis Investment Managers

This material has been provided for information purposes only to investment service providers or other Professional Clients, Qualified or Institutional Investors and, when required by local regulation, only at their written request. This material must not be used with Retail Investors.

To obtain a summary of investor rights in the official language of your jurisdiction, please consult the legal documentation section of the website ([im.natixis.com/intl/intl-fund-documents](http://im.natixis.com/intl/intl-fund-documents))

**In the E.U.:** Provided by Natixis Investment Managers International or one of its branch offices listed below. Natixis Investment Managers International is a portfolio management company authorized by the Autorité des Marchés Financiers (French Financial Markets Authority - AMF) under no. GP 90-009, and a public limited company (société anonyme) registered in the Paris Trade and Companies Register under no. 329 450 738. Registered office: 43 avenue Pierre Mendès France, 75013 Paris.

**Italy:** Natixis Investment Managers International Succursale Italiana, Registered office: Via San Clemente 1, 20122 Milan, Italy.

**Netherlands:** Natixis Investment Managers International, Netherlands (Registration number 000050438298). Registered office: Stadsplateau 7, 3521AZ Utrecht, the Netherlands. **Spain:** Natixis Investment Managers International S.A., Sucursal en España, Serrano n°90, 6th Floor, 28006 Madrid, Spain. **Sweden:** Natixis Investment Managers International, Nordics Filial (Registration number 516412-8372- Swedish Companies Registration Office). Registered office: Covendrum Stockholm City AB, Kungsgatan 9, 111 43 Stockholm, Box 2376, 103 18 Stockholm, Sweden. Or,

Provided by Natixis Investment Managers S.A. or one of its branch offices listed below. Natixis Investment Managers S.A. is a Luxembourg management company that is authorized by the Commission de Surveillance du Secteur Financier and is incorporated under Luxembourg laws and registered under n. B 115843. Registered office of Natixis Investment Managers S.A.: 2, rue Jean Monnet, L-2180 Luxembourg, Grand Duchy of Luxembourg. **Germany:** Natixis Investment Managers S.A., Zweigniederlassung Deutschland (Registration number: HRB 88541). Registered office: Senckenberganlage 21, 60325 Frankfurt am Main. **Belgium:** Natixis Investment Managers S.A., Belgian Branch, Gare Maritime, Rue Picard 7, Bte 100, 1000 Bruxelles, Belgium.

**In Switzerland:** Provided for information purposes only by Natixis Investment Managers, Switzerland Sàrl, Rue du Vieux Collège 10, 1204 Geneva, Switzerland or its representative office in Zurich, Schweizergasse 6, 8001 Zürich.

**In the British Isles:** Provided by Natixis Investment Managers UK Limited which is authorised and regulated by the UK Financial Conduct Authority (register no. 190258) - registered office: Natixis Investment Managers UK Limited, One Carter Lane, London, EC4V 5ER. When permitted, the distribution of this material is intended to be made to persons as described as follows: in **the United Kingdom:** this material is intended to be communicated to and/or directed at investment professionals and professional investors only; in Ireland: this material is intended to be communicated to and/or directed at professional investors only; in **Guernsey:** this material is intended to be communicated to and/or directed at only financial services providers which hold a license from the Guernsey Financial Services Commission; in **Jersey:** this material is intended to be communicated to and/or directed at professional investors only; in the Isle of Man: this material is intended to be communicated to and/or directed at only financial services providers which hold a license from **the Isle of Man** Financial Services Authority or insurers authorised under section 8 of the Insurance Act 2008.

**In the DIFC:** Provided in and from the DIFC financial district by Natixis Investment Managers Middle East (DIFC Branch) which is regulated by the DFSA. Related financial products or services are only available to persons who have sufficient financial

experience and understanding to participate in financial markets within the DIFC, and qualify as Professional Clients or Market Counterparties as defined by the DFSA. No other Person should act upon this material. Registered office: Unit L10-02, Level 10, ICD Brookfield Place, DIFC, PO Box 506752, Dubai, United Arab Emirates

**In Japan:** Provided by Natixis Investment Managers Japan Co., Ltd. Registration No.: Director-General of the Kanto Local Financial Bureau (kinsho) No.425. Content of Business: The Company conducts investment management business, investment advisory and agency business and Type II Financial Instruments Business as a Financial Instruments Business Operator.

**In Taiwan:** Provided by Natixis Investment Managers Securities Investment Consulting (Taipei) Co., Ltd., a Securities Investment Consulting Enterprise regulated by the Financial Supervisory Commission of the R.O.C. Registered address: 34F., No. 68, Sec. 5, Zhongxiao East Road, Xinyi Dist., Taipei City 11065, Taiwan (R.O.C.), license number 2020 FSC SICE No. 025, Tel. +886 2 8789 2788.

**In Singapore:** Provided by Natixis Investment Managers Singapore Limited (NIM Singapore) having office at 5 Shenton Way, #22-05/06, UIC Building, Singapore 068808 (Company Registration No. 199801044D) to distributors and qualified investors for information purpose only. NIM Singapore is regulated by the Monetary Authority of Singapore under a Capital Markets Services Licence to conduct fund management activities and is an exempt financial adviser. Mirova Division (Business Name Registration No.: 53431077W) and Ostrum Division (Business Name Registration No.: 53463468X) are part of NIM Singapore and are not separate legal entities. This advertisement or publication has not been reviewed by the Monetary Authority of Singapore.

**In Hong Kong:** Provided by Natixis Investment Managers Hong Kong Limited to professional investors for information purpose only.

**In Australia:** Provided by Natixis Investment Managers Australia Pty Limited (ABN 60 088 786 289) (AFSL No. 246830) and is intended for the general information of financial advisers and wholesale clients only.

**In New Zealand:** This document is intended for the general information of New Zealand wholesale investors only and does not constitute financial advice. This is not a regulated offer for the purposes of the Financial Markets Conduct Act 2013 (FMCA) and is only available to New Zealand investors who have certified that they meet the requirements in the FMCA for wholesale investors. Natixis Investment Managers Australia Pty Limited is not a registered financial service provider in New Zealand.

**In Colombia:** Provided by Natixis Investment Managers International Oficina de Representación (Colombia) to professional clients for informational purposes only as permitted under Decree 2555 of 2010. Any products, services or investments referred to herein are rendered exclusively outside of Colombia. This material does not constitute a public offering in Colombia and is addressed to less than 100 specifically identified investors.

**In Latin America:** Provided by Natixis Investment Managers International.

**In Uruguay:** Provided by Natixis Investment Managers Uruguay S.A., a duly registered investment advisor, authorised and supervised by the Central Bank of Uruguay. Office: San Lucar 1491, Montevideo, Uruguay, CP 11500. The sale or offer of any units of a fund qualifies as a private placement pursuant to section 2 of Uruguayan law 18,627.

**In Mexico:** Provided by Natixis IM Mexico, S. de R.L. de C.V., which is not a regulated financial entity, securities intermediary, or an investment manager in terms of the Mexican Securities Market Law (Ley del Mercado de Valores) and is not registered with the Comisión Nacional Bancaria y de Valores (CNBV) or any other Mexican authority. Any products, services or investments referred to herein that require authorization or license are rendered exclusively outside of Mexico. While shares of certain ETFs may be listed in the Sistema Internacional de Cotizaciones (SIC), such listing does not represent a public offering of securities in Mexico, and therefore the accuracy of this information has not been confirmed by the CNBV. Natixis Investment Managers is an entity organized under the laws of France and is not authorized by or registered with the CNBV or any other Mexican authority. Any reference contained herein to "Investment Managers" is made to Natixis Investment Managers and/or any of its investment management subsidiaries, which are also not authorized by or registered with the CNBV or any other Mexican authority.

**In Brazil:** Provided to a specific identified investment professional for information purposes only by Natixis Investment Managers International. This communication cannot be distributed other than to the identified addressee. Further, this communication should not be construed as a public offer of any securities or any related financial instruments. Natixis Investment Managers International is a portfolio management company authorized by the Autorité des Marchés Financiers (French Financial Markets Authority - AMF) under no. GP 90-009, and a public limited company (société anonyme) registered in the Paris Trade and Companies Register under no. 329 450 738. Registered office: 43 avenue Pierre Mendès France, 75013 Paris.

The above referenced entities are business development units of Natixis Investment Managers, the holding company of a diverse line-up of specialised investment management and distribution entities worldwide. The investment management subsidiaries of Natixis Investment Managers conduct any regulated activities only in and from the jurisdictions in which they are licensed or authorized. Their services and the products they manage are not available to all investors in all jurisdictions. It is the responsibility of each investment service provider to ensure that the offering or sale of fund shares or third party investment services to its clients complies with the relevant national law.

The provision of this material and/or reference to specific securities, sectors, or markets within this material does not constitute investment advice, or a recommendation or an offer to buy or to sell any security, or an offer of any regulated financial activity. Investors should consider the investment objectives, risks and expenses of any investment carefully before investing. The analyses, opinions, and certain of the investment themes and processes referenced herein represent the views of the portfolio manager(s) as of the date indicated. These, as well as the portfolio holdings and characteristics shown, are subject to change. There can be no assurance that developments will transpire as may be forecasted in this material. The analyses and opinions expressed by external third parties are independent and does not necessarily reflect those of Natixis Investment Managers. Past performance information presented is not indicative of future performance.

Although Natixis Investment Managers believes the information provided in this material to be reliable, including that from third party sources, it does not guarantee the accuracy, adequacy, or completeness of such information. This material may not be distributed, published, or reproduced, in whole or in part.

All amounts shown are expressed in USD unless otherwise indicated.

Natixis Investment Managers may decide to terminate its marketing arrangements for this product in accordance with the relevant legislation

[www.ostrum.com](http://www.ostrum.com)