

SPECIAL REPORT

06 July 2020

WHAT DOES THE FUTURE HOLD FOR THE TOURISM SECTOR?

Despite the envisaged reopening of Europe's internal and external borders, the European tourism sector will be hit this year by a historic fall in the number of international tourists. According to Tourism Economics, international tourist flows are expected to decrease by 39% in Europe in 2020 compared with 2019. International tourism accounted for 35% of tourism expenditure in Europe in 2019 and exports of tourism services generated receipts of up to €428 billion at the European Union level, i.e. 2.6% of GDP.

Given the sector's importance to the economy, the impact of the slowdown in international tourism on the economies that receive the most international tourists, namely France, Spain and Italy, will be crucial.

We are also interested in the breakdown of these effects on the various tourism-related sectors (accommodation, air transport, retail, cultural and recreational activities, etc.). We examine the various risks that could weigh on each country according to the characteristics of its tourism industry (the shares of domestic and foreign tourism, the characteristics of the accommodation supply, average spending per head, geographical origin of visitors, etc.).



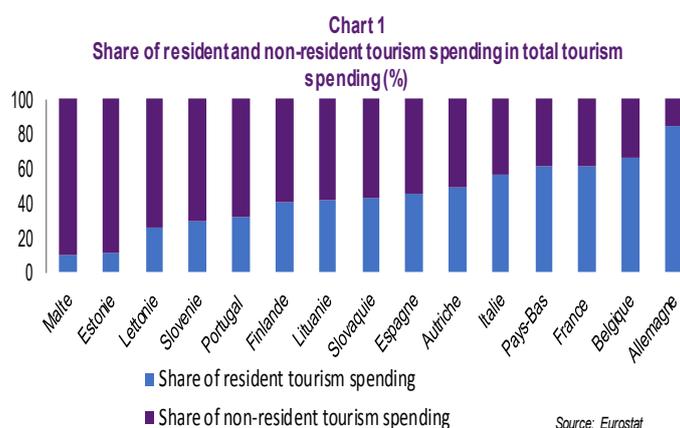
Jesus Castillo
Tel. +33 1 58 55 99 90
jesus.castillo@natixis.com

With the participation of **Camille Baudry**

www.research.natixis.com

Clear dependence on international tourism receipts in Europe

The importance of international tourism varies across Europe (Chart 1). For Spain, Greece, Croatia and Portugal, the share of receipts from international tourism is particularly high (more than 50% of total tourism). These countries are therefore highly sensitive to changes in international tourist flows. Conversely, in Italy, Germany and France, the domestic tourism share exceeds 50%. This suggests that the absence of foreign travellers could more easily be offset by resident tourists.



Within international tourism itself, countries' dependence on a given country of origin varies considerably. In the three countries that receive the most international tourists (France, Spain and Italy), European tourists¹ form the majority of international tourist flows (Tables 1, 2 and 3):

- In France, 78% of international tourists (i.e. 70 million people) are European. In 2018, they accounted for 73.7% of tourist nights.
- In Italy, they accounted for 70% of international tourists (67.9 million people).
- In Spain, they accounted for 84% (70.9 million people) in 2019.

The United Kingdom and Germany are the leading suppliers of tourists for France, Spain and Italy. The British account for 14.6%,² 21.6% and 7.6% of international tourists in France, Spain and Italy, respectively. Germans, meanwhile, account for 13.6%, 14% and 19.4%. In contrast, a different ranking emerges from an analysis of the geographical origin of income (no longer of people) in France, Spain and Italy. Even though tourists in these three countries come primarily from

within Europe, tourism receipts are not necessarily European. In Spain and Portugal, respectively 74% and 73% of international tourism-related receipts came from European tourists in 2019. In Spain, 41.6% of receipts came from three countries: Germany, the United Kingdom and France. In Italy, meanwhile, only 59% of spending is carried out by European residents. In France, European residents account for only just over half of tourism-related receipts, which indicates greater dependence on non-European countries when it comes to revenues. The ratio of average spending per visitor shows which nationalities spend the most. For instance, tourists from more distant countries (in particular China, Japan, the United States, etc.) spend more per day and per person than tourists from other geographical origins. Although there are fewer such tourists in volume terms, they contribute relatively more than European tourists. This is particularly the case for travellers in France and Italy.

Table 1: France: International tourism by main countries of origin in 2018

	Number of tourists (millions)	Share of all international tourists (%)	Receipts (€bn)	Share of total receipts (%)	Average spending per visitor in € (2017)
United Kingdom	13	14,6	5,8	11	358
Germany	12,3	13,6	5,1	10	161
Belgium, Luxembourg	11,6	13	6,5	12	159
Italy	7	7,8	3,3	6	204
Switzerland	6,8	7,6	5,5	10	154
Spain	6,7	7,5	3,2	6	201
United States	4,5	5	3,6	7	663
Netherlands	4,7	5,3	1,9	4	261
China	2,2	2,4	4	7	1647

Source: Bank of France

Table 2: Spain: International tourism by main countries of origin in 2019

	Number of tourists (millions)	Share of all international tourists (%)	Receipts (€bn)	Share of total receipts (%)	Average daily spending per visitor in €
United Kingdom	18,1	21,6	18	20	135
Germany	11,7	14	11,7	13,1	138
France	11,2	13,3	7,6	8,5	98
Nordic countries	5,5	6,6	6,8	7,6	148
Italy	4,5	5,4	3,6	4	130
Netherlands	3,7	4,4	4,2	4,6	147
United States	3,3	3,9	5,8	6,5	264
Belgium	2,5	3	2,7	3	127
Portugal	2,4	2,9	1	1,1	124
Ireland	2,3	2,7	2,4	2,7	152
Switzerland	1,8	2,2	1,8	2	127
Russia	1,3	1,6	2	2,2	175

¹ In the geographical sense.

² In 2017.

Table 3: Italy: International tourism by main countries of origin in 2019

	Number of tourists (millions)	Share of all international tourists (%)	Spending (€bn)	Share of total receipts (%)	Average spending per tourist night in €
Germany	16,2	19,4	7,6	17,2	91,6
Switzerland	13,3	15,9	2,5	5,7	116,4
France	12,8	15,3	4,4	9,9	90,7
Austria	8	9,6	2,1	4,8	98,8
United Kingdom	6,4	7,6	3,8	8,6	106,2
United States	4,4	5,3	5,5	12,5	140,3
Spain	3,5	4,2	1,7	3,8	74,4
Netherlands	2,3	2,7	1,2	2,7	94,1
Canada	1,2	1,4	1,8	4,2	164,4
Australia	1	1,2	1,9	4,3	148,3

Source: Bank of Italy

Outlook for tourist flows by country of origin

The structure of tourism differs between the three countries in terms of the origin of visitors, their purchasing power and the relative weight of domestic tourism. Thus, the border controls will significantly influence international tourist flows, but their impact will differ from one European country to the next.

- Intra-European tourism will be negatively affected, but less so than non-EU tourist flows due to the faster opening of intra-EU borders and the more similar health and regulatory contexts (**Table 4**).
- If European tourists respond, Spain could find it easier to maintain its international tourism revenues.
- France and Italy could suffer significantly from the slowdown in non-European tourist flows, due to their high share of revenues from these nationalities and their stronger purchasing power. Indeed, there are no plans to open borders for tourists from the United States, Brazil or Russia, and reopening with China is contingent upon reciprocity.
- Last, **perceptions of the health risk** will be crucial in terms of tourist demand for these countries. Tourists are likely to favour those destinations considered safer by virtue of lower infection rates. This could make some regions less attractive (Lombardy, Greater Paris, etc.). In Italy, the fact that the pandemic hit hardest in the north of the country, where international tourists are usually concentrated, is likely to undermine tourists' confidence in this destination.

According to Tourism Economics, international travel in Europe is expected to fall by 39% this year compared with 2019. This would amount to 287 million fewer international tourist arrivals. By country, Tourism Economics forecasts a decline of 38 million international

tourists in France, 34 million in Spain and 31 million in Italy.³

Table 4: Opening and new rules for the international mobility of people

European Commission	Recommendation to open borders within the Schengen area from 15 June and proposal to open external borders on 1 July with 14 countries* whose COVID infection rate has been close to or below 16 per 100,000 inhabitants in the previous 14 days (borders to be reassessed every 14 days)
Germany	Gradual reopening until 15 June without quarantine for UK and EU citizens
Italy	Reopening without quarantine on 3 June (15 June for non-Schengen countries)
Netherlands	Reopening on 15 June without quarantine
Denmark	Reopening on 15 June only for German, Norwegian and Icelandic citizens
Belgium	Reopening on 15 June (since 30 May with Germany, Luxembourg and the Netherlands)
Greece	Reopening from 15 June without quarantine except for visitors from some regions hit hard by COVID-19 (Greater Paris, 4 Italian regions and 4 Spanish regions) until 30 June, mandatory testing
Spain	Reopening from 21 June without quarantine (except for Portugal from 1 July); exception: opening of an air corridor from 15 June between the Balearic Islands and Germany with a quota of 6,000 travellers
Estonia	Quarantine for countries that have had at least 25 cases per 100,000 inhabitants in the previous 14 days, no restriction for others
France	Borders within Schengen area open since 11 May but mandatory justification; reopening on 15 June
Croatia	No restriction for Europe
Bulgaria	No restriction since 15 June for Schengen area citizens, but Belgian, Portuguese, Swedish and UK citizens subject to 14-day quarantine.
Austria	Opening from 15 June
Czech Republic	Gradual reopening to some countries from 15 June (Austria, Germany, Hungary, Slovakia), otherwise quarantine for other non-residents
United Kingdom	14-day quarantine for non-residents from 8 June
Ireland	14-day quarantine for non-residents except Northern Ireland
Cyprus	Two categories of countries: no restriction for category A and mandatory PCR test for category B countries, including France, Italy and Spain
Latvia	3 June gradual lifting of mandatory quarantine with 20 European countries
Portugal	Lifting of restrictions except with Spain (1 July)
Malta	Corridors with some countries including France, Spain and Italy (but not the hardest-hit regions: Greater Paris, Lombardy, etc.)

Source: Reopen EU

³ This estimate corresponds to that of ENIT (Italy's national tourism office), which also expects a 49% fall in international tourist flows in the country in 2020.

Estimated impact of COVID-19 on sectors directly related to tourism

We estimate the potential impact of the health crisis in terms of consumption, jobs and value added for the wider tourism sector (**Appendix: Estimated impact of COVID-19 on sectors directly related to tourism in France, Spain and Italy**). We use Tourism Economics' assumptions for the fall in international tourist flows outlined above (international visitors down by -49% in Italy and by -42% in both Spain and France) as well as data from the Tourism Satellite Accounts to obtain ratios of consumption, tourism value added and tourism jobs per non-resident tourist. We then assume that this ratio is stable over time⁴ and that domestic tourism will not replace non-resident tourism.

France could lose €23 billion in revenues, i.e. more than 30% of its revenues in 2018 (including €7.6 billion from the United States and China, i.e. 14% of the country's international tourism receipts). It is estimated that overall tourism value added could fall from 7.5% to 4.2% of GDP and that employment attributable to tourism could suffer a 40% shock. In Spain, it is expected that with 34 million fewer tourists, the loss could amount to €38.7 billion for the year, i.e. more than 35% of non-resident tourism consumption. The share of tourism VA, which accounted for 12.3% of GDP, could fall to 7.4%; employment could fall from 12.7% to 7.7% of total employment. Last, in Italy, the loss of 31 million international tourists for the year could reduce receipts by €21 billion, i.e. half of 2018's receipts (of which €9.2 billion or 20% of receipts from the United States, Canada and Australia alone). Tourism-related employment could fall to 8.9% of total employment, having accounted for 15% in 2018. Moreover, the loss of VA could reach 5.2% of GDP, in a country where it normally amounts to around 13.4% of GDP.

Accommodation is the largest consumption item among non-resident tourists in Italy and France (more than 30% of non-resident tourist spending in 2018) (**Tables 5, 6 and 7: non-resident tourist spending items**). Moreover, non-resident tourists tend to spend more on this item than residents in all three countries. In Spain, for example, average daily spending on accommodation in 2019 was €112 for resident tourists, compared with €197 for non-residents. Tourist accommodation can therefore be expected to be particularly affected by the fall in international tourist flows. Some segments favoured by international tourists

are likely to be hit harder by this fall, **in particular market accommodation and mid- to high-end hotels**. Tourists are also likely to favour private accommodations and accommodations that meet social distancing requirements, which will see non-hotel establishments (inns, private houses, etc.) substitute for hotels with common areas. Some countries may be better placed to respond to these demands (France, Croatia, Netherlands), while other countries have a higher concentration of hotels (Spain, Greece, Portugal, etc.) and therefore present a higher risk of being shunned by tourists.

Tourists' accommodation preferences are also likely to change **in favour of destinations that are perceived to be safer** and to the detriment of places with a high population density. For example, according to a Bank of Italy study,⁵ the proportion of beds in densely populated areas is particularly high (more than 40%) in countries such as France, Portugal and the United Kingdom. Tourism demand in these areas can therefore be expected to slow. This share is lower in Spain or Italy, where tourism is less concentrated in the major cities. **Tourism can therefore be expected to shift from the most urban to the more rural regions** in these three countries.

The second-largest spending item for non-resident visitors is non-urban transport. Among non-urban transport, spending on air transport is particularly significant. It is the main transport mode for international tourists, especially from faraway regions. In 2018, 80% of tourists travelled to Spain by plane; 41% travelled to Italy by plane. Tourists accounted for 64% of transport spending. In France, air travel was responsible for 32% of arrivals in France in 2018, including 66% of non-European tourists. In all three countries, the **air transport sector will suffer greatly from the fall in tourist flows**. The consequences in terms of employment could be significant in Spain and France, where the sector employs 60,000 and 43,000 people, respectively. Last in the list of directly tourism-related sectors, **travel agencies are likely to be affected more by the slowdown in resident departures** abroad than by the fall in tourism inflows, as inbound tourists account for only a small proportion of spending on travel agencies.

Related economic sectors will also be affected by the weak international and particularly non-European tourist flows

⁴ The structure of data from the Tourism Satellite Accounts remains relatively stable over time.

⁵ https://www.bancaditalia.it/pubblicazioni/indagine-turismo-internazionale/2020-indagine-turismo-internazionale/statistiche_ITI_05062020.pdf

Some sectors indirectly related to tourism will also be negatively affected. For **restaurants**, spending by international tourists also forms a larger share of their revenue than that by resident tourists. The countries the most affected could be Spain first, then Italy because of the high number of jobs in this sector (over 1.2 million and close to 1 million jobs, respectively). In France also, European tourists are slightly under-represented relative to non-European tourists when it comes to **visits to cultural sites and gastronomic and retail activities**. Non-European tourists also stand out for their purchases of **luxury and high-value goods** in particular. For Chinese, Japanese and Middle Eastern tourists in France, retail spending is the second-largest spending item after accommodation; for Russians, it is the third-largest. The segment of **tourism-related retail depends largely on consumption by non-European tourists**, so receipts will inevitably fall this year. This effect is likely to be particularly significant in Italy and France for purchases of durable goods and retail. Lastly, **cultural, sporting and recreational activities will also suffer from the slowdown in international tourism**. These countries' main cities will be affected, in particular those destinations chosen by non-residents for such activities, notably in historical city centres (Rome, Venice, Milan, Paris, Marseilles, Barcelona, Seville, etc.). For instance, 56.4% of non-resident tourists visited Italy for city and cultural tours. France could be more affected in terms of value added, while in terms of employment, these sectors consume more labour in Italy and Spain.

Table 5: Spain: Tourism spending by item and visitor type in 2019

	Non-resident tourists (€mn)	International tourist consumption share (%)	Resident tourists (€mn)	Resident tourist consumption share (%)
Transport	18 660,00	61,6	11 629,80	38,4
Accommodation	14 060,00	55,3	11 355,40	44,7
Bars and restaurant	13 958,00	55,4	11 246,40	44,6
Package holidays	18 486,00	82	4 047,20	18
Activities	18 223,00	89	2249,3	11
Other	8 881,00	54,1	7 536,80	45,9

Source: INE

Table 6: France: Tourism spending by item and visitor type in 2018

	International tourists (€bn)	International tourist consumption share (%)	French tourists (€bn)	French tourist consumption share (%)
Food and beverages	4,8	36,6	8,3	63,4
Market tourist accommodation	18,6	58,1	13,4	41,9
Restaurants and cafés	9,2	54,8	7,6	45,2
Non-urban transport services	11,5	37,1	19,5	62,9
Other spending (local transport, shopping, etc.)	8,2	37,8	13,5	62,2
Tolls, fuel and vehicle hire	4,9	30,6	11,1	69,4
Tour operators and travel	1,1	13,4	7,1	86,6
Cultural, sport and leisure activities	3,8	39,2	5,9	60,8
Total consumption	64,2	38,2	103,8	61,8

Source: DGE 2017

Table 7: Italy: Tourism spending by item and visitor type in 2017

	Non-resident tourists (€mn)	International tourist consumption share (%)	Resident tourists (€mn)	Resident tourist consumption share (%)
Visitor accommodation	15 866,00	51,2	15 108,00	48,8
Restaurants	9 624,90	46,8	10 923,20	53,2
Rail passenger transport	391,7	16,8	1 940,70	83,2
Road passenger transport	787,2	27,9	2 038,10	72,1
Sea passenger transport	423,8	17,1	2 050,10	82,9
Air transport services	1 583,00	31,4	3 455,80	68,6
Vehicle hire services	548,6	56,3	426	43,7
Travel agency and other services	446,6	11,9	3 322,00	88,1
Cultural services	521,2	56,3	404,7	43,7
Sport and recreational services	1 673,30	56,3	1 299,20	43,7
Retail	7 276,50	39,9	10 946,70	60,1
Other	12 546,70	43,7	16 145,90	56,3
Total	51 689,10	43,2	68 060,40	56,8

Source: Istat 2017

Domestic tourism is expected to boom but will not offset the losses caused by weak international tourism

The fall in international tourism could be offset by a rebound in domestic demand, as resident tourists who usually travel abroad head to domestic destinations instead. **Domestic tourism is therefore expected to expand faster than international tourism**, first thanks to the earlier lifting of travel restrictions, but also because of **travellers' preference for closer destinations, which are considered safer and less ridden with uncertainty when it comes to bookings**. According to Tourism Economics, domestic tourism is expected to fall by 23% across Europe this year. In addition, many countries have adopted **measures to encourage domestic tourism** (see our Special Report [European tourism at a standstill](#)), in particular holiday tax credits for low-income households in Italy, a broadening of the uses of meal vouchers in France, marketing campaigns, etc.

Proximity is one common trend to emerge from surveys of travel intentions in France, Italy and Spain, which could benefit domestic tourism. According to Bluepillow, more than half of Italians report wanting to go on holiday this summer; 89% want to stay in Italy. In France, a study by VVF Ingénierie has showed that the loss of

purchasing power is already affecting the holiday decisions of French households. Among those surveyed, 16% said they would consider reducing their holiday budget and 15% would shorten their holidays. Like in Italy, 87% of the French report a desire to remain in France. According to Deloitte, between 7% and 25% of Spaniards intend to travel abroad, depending on transport and travel type, compared with 75% usually.

In Italy and France, domestic tourists continue to account for the majority of spending (62% or €103.7 billion in France and 58% or €68 billion in Italy in 2017), which could curb the sector's losses. In Spain, however, the share of domestic tourism is lower (45% or €50 billion). Spending abroad by French and Italian tourists, which could be partially recouped this year by domestic tourism, is estimated at respectively €36.7 billion and €27.1 billion⁶ (compared with a loss of international receipts of €23 billion and €21 billion, respectively, according to our estimates). In theory, this could make it possible to recoup the losses from international tourism, although full substitution does seem optimistic. In contrast, Spanish residents spend only €22 billion on their trips abroad (compared with €38.7 billion in losses according to our estimates), which will not be enough to offset the losses, even assuming a full transfer of Spanish tourists' spending to the country.

To conclude, we have drawn up a table summarising the various risks associated with the COVID-19 pandemic affecting each country (**Table 8: Risk matrix for the French, Spanish and Italian tourism sectors**). Spain is likely to be hit harder due to the dependence of its sector on international tourists and its thin domestic demand. However, Spain's inbound tourists tend to be more European, which could curb the fall in total tourist inflows. France may be able to fall back on an already substantial domestic demand and on the possibility of recouping some of French tourists' usual consumption abroad. Italy also has a more balanced revenue structure between residents and non-residents and could also benefit from a domestic tourism boom, spurred in particular by its holiday tax credit for low-income households. However, in these last two countries and to a lesser extent in Spain, other economic sectors will also suffer from the weak non-European tourist flows (retail, recreational and cultural activities, mid- to high-end accommodation, accommodation in densely populated areas).

⁶ Data from 2019 for Italy, 2017 for France and 2018 for Spain.

Table 8: Risk matrix for the French, Spanish and Italian tourism sectors

***: Very high risk level **: High risk level *: Moderate risk level

	France	Spain	Italy
Tourism share of GDP	*	**	***
Domestic tourist share of tourism receipts	*	***	**
Non-European tourist share of tourism receipts	***	*	**
Substitutability of resident tourists for international tourists	*	***	**
Average spending per head per country (international tourists)	***	**	*
Border reopening timetable	**	**	**
Health situation confidence index	*	**	***
Accommodation type	*	***	**

Source: Natixis

Appendix: Estimated impact of COVID-19 on sectors directly related to tourism in France, Spain and Italy
Table 1: France: Estimated key indicators for tourism sector post-COVID-19 based on TSA data from 2017

	Consumption by international tourists (€bn)	Value added attributable to tourism (€bn)	Jobs attributable to tourism (millions of persons)	Consumption per non-resident tourist (€)	Tourism VA per non-resident tourist (€)	Number of tourism jobs per non-resident tourist	Estimate of 2020 VA attributable to international tourism (€bn)	Estimate of 2020 consumption attributable to non-resident tourists (€bn)	Estimate of 2020 total employment (thousands of persons)
Market tourist accommodation	18,6	34,8	1 025,00	213,8	400	11,8	20,4	10,9	600,9
Restaurants and cafés	9,2	25	688,7	105,7	287,4	7,9	14,7	5,4	403,7
Non-urban transport services	11,5	23,6	265,3	132,2	271,4	3	13,8	6,7	155,5
Tour operators and travel agencies	1,1	2,2	54	12,6	25,3	0,6	1,3	0,6	31,7
Cultural, sport and leisure activities	3,8	5,7	93,3	43,7	65,6	1,1	3,3	2,2	54,7
Total	64,2	161,7	1 302,00	737,9	1 858,60	15	94,8	37,6	763,2

Source: DGE 2017

Table 2: Spain: Estimated key indicators for tourism sector post-COVID 19 based on TSA data from 2019

	Consumption by non-resident tourists (€bn)	Value added attributable to tourism (€bn)	Employment attributable to tourism (millions of persons)	Consumption per non-resident tourist (€)	Tourism VA per non-resident tourist (€)	Number of tourism jobs per non-resident tourist	Estimate of 2020 consumption attributable to non-resident tourists (€bn)	Estimate of 2020 VA attributable to international tourism (€bn)	Estimate of 2020 total employment (thousands of persons)
Accommodation	14,1	13,1	383,9	171,9	159,9	4,7	8,5	7,9	233,2
Restaurants	14	19,3	1 331,00	170,6	235,4	16,3	8,5	11,7	808,7
Air Transport	18,7	2,3	29,8	228,1	27,8	0,4	11,3	1,4	18,1
Tour operators and travel agencies*	5,4	2,4	58	66,5	29,3	0,7	3,3	1,5	35,2
Total (2018)	92,2	147,9	2 620,00	1 127,10	1 808,10	32	56	89,9	1 591,90

Source: OECD, INE

Table 3: Italy: Estimated key indicators for tourism sector post-COVID-19 based on TSA data from 2015

	Consumption by non-resident tourists (€bn)	Value added attributable to tourism (€bn)	Jobs attributable to tourism (millions of persons)	Consumption per non-resident tourist (€)	Tourism VA per non-resident tourist (€)	Number of tourism jobs per non-resident tourist	Estimate of 2020 consumption attributable to non-resident tourists (€bn)	Estimate of 2020 VA attributable to international tourism (€bn)	Estimate of 2020 total employment (thousands of persons)
Accommodation	14,8	41,8	287	291,9	824,4	5,7	9,1	25,7	176,3
Restaurants	8,4	7,1	192,9	166,3	139,3	3,8	5,2	4,3	118,5
Travel agency and other services	0,3	1,8	66,1	5,9	34,8	1,3	0,2	1,1	40,6
Air transport services	1,6	0,8	25,9	32,2	15,9	0,5	1	0,5	15,9
Total (2018)	44,3	210	4 000,00	873,8	4 142,00	78,9	27,2	129	2 456,80

Source: Italian Tourism Satellite Account 2018

Disclaimer

This marketing communication and the information contained in this publication and any attachment thereto is exclusively intended for a client base consisting of professionals, eligible counterparties and qualified investors.

This document and any attachment thereto are strictly confidential and cannot be divulged to a third party without the prior written consent of Natixis. If you are not the intended recipient of this document and/or the attachments, please delete them and immediately notify the sender.

Reference prices are based on closing prices (if mentioned in this document).

Distribution, possession or delivery of this document in, to or from certain jurisdictions may be restricted or prohibited by law. Recipients of this document are required to inform themselves of and comply with all such restrictions or prohibitions. Neither Natixis, nor any of its affiliates, directors, employees, agents or advisers or any other person may be deemed liable to any person in relation to the distribution, possession or delivery of this document in, to or from any jurisdiction.

This document has been developed by our economists. It does not constitute a financial analysis and has not been developed in accordance with legal requirements designed to promote the independence of investment research. Accordingly, there are no prohibitions on dealing ahead of its dissemination.

This document and all attachments are communicated to each recipient for information purposes only and do not constitute a personalized investment recommendation. They are intended for general distribution and the products or services described herein do not take into account any specific investment objective, financial situation or particular need of any recipient. This document and any attachment thereto shall not be construed as an offer nor a solicitation for any purchase, sale or subscription.

Under no circumstances should this document be considered as an official confirmation of a transaction to any person or entity.

This document and any attachment thereto are based on public information and shall not be used nor considered as an undertaking from Natixis.

Natixis has neither verified nor carried out independent analysis of the information contained in this document. Accordingly, no representation, warranty or undertaking, either express or implied, is made to the recipients of this document as to or in relation to the relevance, accuracy or completeness of this document or as to the reasonableness of any assumption contained in this document. Information does not take into account specific tax rules or accounting methods applicable to counterparties, clients or potential clients of Natixis. Therefore, Natixis shall not be liable for differences, if any, between its own valuations and those valuations provided by third parties; as such differences may arise as a result of the application and implementation of alternative accounting methods, tax rules or valuation models. The statements, assumptions and opinions contained in this document may be changed or may be withdrawn by Natixis at any time without notice.

Prices and margins are indicative only and are subject to change at any time without notice depending on, inter alia, market conditions. Past performances and simulations of past performances are not a reliable indicator and therefore do not anticipate any future results. The information contained in this document may include results of analyses from a quantitative model, which represent potential future events that may or may not be realized and is not a complete analysis of every material fact representing any product. Information may be changed or may be withdrawn by Natixis at any time without notice.

The statements, assumptions and forecasts contained in this document reflect the judgment of its author(s), unless otherwise specified, and do not reflect the judgment of any other person or of Natixis. The information contained in this document should not be assumed to have been updated at any time subsequent to the date shown on the first page of this document and the delivery of this document does not constitute a representation by any person that such information will be updated at any time after the date of this document.

Natixis shall not be liable for any financial loss or any decision taken on the basis of the information disclosed in this presentation and Natixis does not provide any advice, including in case of investment services. In any event, you should request for any internal and/or external advice that you consider necessary or desirable to obtain, including from any financial, legal, tax or accounting adviser, or any other specialist, in order to verify in particular that the transaction (as the case may be) described in this document complies with your objectives and constraints and to obtain an independent valuation of the transaction, its risk factors and rewards.

All of the views expressed in this report accurately reflect the author's personal views regarding any and all of the subject securities or issuers. No part of author compensation was, is or will be, directly or indirectly related to the specific recommendations or views expressed in this report. The personal views of authors may differ from one another. Natixis, its subsidiaries and affiliates may have issued or may issue reports that are inconsistent with, and/or reach different conclusions from, the information presented herein.

[Natixis may have Conflicts of Interest : Natixis may from time to time, as principal or agent, be involved in a wide range of activities globally, have positions in, or may buy or sell, or make a market in any securities, currencies, financial instruments or other assets underlying the instruments to which the Information relates. Natixis activities related to those instruments may have an impact on the price of the relevant underlying asset and may give rise to conflicting interests or duties. Natixis may provide services to any member of the same group as the recipient of the Information or any other entity or person (a Third Party), engage in any transaction (on its own account or otherwise) with respect to the recipient of the Information or a Third Party, or act in relation to any matter for itself or any Third Party, notwithstanding that such services, transactions or actions may be adverse to the recipient of the Information or any member of its group, and Natixis may retain for its own benefit any related remuneration or profit. In addition, Natixis may, whether by virtue of the types of relationships described in this paragraph or otherwise, from time to time be in possession of information in relation to a particular instrument that is or may be material in the context of that instrument and that may or may not be publicly available or known to you. Our providing you an indicative price quotation or other information with respect to any such instrument does not create any obligation on the part of Natixis to disclose to you any such information (whether or not confidential).]

The stocks/companies mentioned might be subject to specific disclaimers. Please click on the following link to consult them: <https://www.research.natixis.com/GlobalResearchWeb/main/globalresearch/DisclaimersSpecifiques>

Natixis is supervised by the European Central bank (ECB).

Natixis is authorized in France by the Autorité de Contrôle Prudentiel et de Régulation (ACPR) as a Bank -Investment Services Provider and subject to its supervision.

Natixis is regulated by the Autorité des Marchés Financiers in respect of its investment services activities.

Natixis is authorized by the ACPR in France and regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority in the United Kingdom. Details on the extent of regulation by the FCA and the Prudential Regulation Authority are available from Natixis' branch in London upon request.

In Germany, NATIXIS is authorized by the ACPR as a bank - investment services provider and is subject to its supervision. NATIXIS Zweigniederlassung Deutschland is subject to a limited form of regulation by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) with regards to the conduct of its business in Germany under the right of establishment there. The transfer / distribution of this document in Germany is performed by / under the responsibility of NATIXIS Zweigniederlassung Deutschland.

Natixis is authorized by the ACPR and regulated by Bank of Spain and the CNMV (Comisión Nacional del Mercado de Valores) for the conduct of its business under the right of establishment in Spain.

Natixis is authorized by the ACPR and regulated by Bank of Italy and the CONSOB (Commissione Nazionale per le Società e la Borsa) for the conduct of its business under the right of establishment in Italy.