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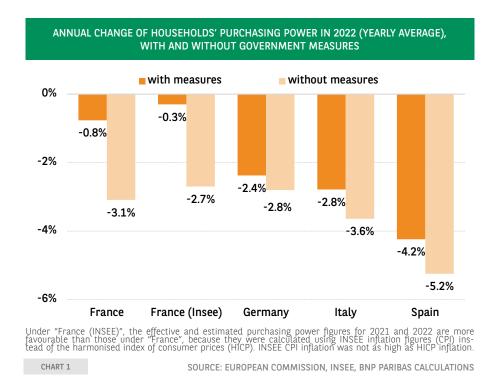
ENERGY PRICE INFLATION IN THE EUROZONE: GOVERNMENT RESPONSES AND IMPACT ON HOUSEHOLD PURCHASING POWER

Guilaume Derrien, Stéphane Colliac (with Elias Krief, intern)

The sharp rise in energy prices since April 2021 has been the main driving force behind the current surge in Eurozone inflation. The outbreak of war in Ukraine on 24 February accentuated this trend, sending the energy component of the harmonised index of consumer prices (HICP) up 44.4% y/y in March 2022.

Faced with this situation, the governments of the four main Eurozone economies under review in this article have acted to try to buffer the shock on economic players, and notably on household purchasing power, via direct subsidies, tax cuts, price regulations and measures to boost nominal incomes.

Although their actions have clearly helped ease the rise in energy costs, they have not prevented a loss of household purchasing power thus far in 2022, even though it is expected to be relatively mild. Moreover, they have not prevented inflation from spreading to other components of the consumer price index.



THE INCREASE IN ENERGY PRICES IS THE MAIN DRIVING FORCE BEHIND THE SURGE IN EUROZONE INFLATION, DESPITE SIGNIFICANT DIFFERENCES BETWEEN MEMBER STATES

Energy made the biggest contribution to the increase in consumer prices in the Eurozone. In March 2022, the energy component of the harmonised index of consumer prices (HICP) increased 44.4% year-on-year (y/y) (*see chart 2*). Since this component accounts for an average of 11% of household expenditures, energy contributed nearly two thirds (65.6%) of the increase in headline inflation in March 2022. Yet this overall figure masks important disparities between the main Eurozone economies (*see chart 3*). In Italy and Spain, where energy prices jumped by 50% y/y, the contribution was more than 70% (73.6% and 72.3%, respectively). The increase in energy prices in Germany and France was nearly two times lower than for their southern European counterparts, the contribution was smaller at 59.7% and 60.3%, respectively. In April 2022, the energy component rose at a slightly slower pace (+38% y/y vs. 44% in March), but still contributed more than half of headline inflation (55.3%).

ECONOMIC RESEARCH



Assuming there is not another surge in international energy prices, the relative importance of this component should gradually decline due to second-round effects and a stronger upturn in non-energy inflation.

Energy's contribution to inflation differs between countries due (i) to the various dynamics of the sub-components of energy, and (ii) to the weighting of these different energy sources in household consumption. In the Eurozone, electricity stands out as one of the key factors behind the increase in the price index (see table 1). It had a double impact on households due to a price effect and to the higher weighting of electricity as a share of household spending. Even so, major differences exist between countries. In Spain, electricity was the biggest contributor to price increases in March 2022, while natural gas and fuel, respectively, stood out in Italy and Germany. France stands apart from its European neighbours due to the mild increase in regulated electricity prices.

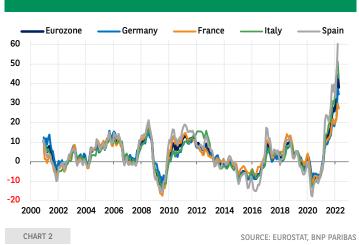
FACED WITH ENERGY PRICE INFLATION, GOVERNMENTS TOOK MEASURES TO PRESERVE HOUSEHOLD PURCHASING POWER AND TO SUPPORT COMPANIES

To buffer the sharp rise in energy prices and its impact on the economy, European governments began rolling out key measures to support households and companies alike, with the majority kicking in as of Q4 2021 (see chart 4). Based on our estimates (which take into account information available until 7 May 2022), government aid totalled EUR 45.9 bn in France, EUR 23.4 bn in Germany, EUR 23.4 bn in Italy and EUR 16.9 bn in Spain¹. Measured as a share of GDP, the government aid supplied in France (1.9% of GDP), Spain (1.4%) and Italy (1.3%) was more substantial than that provided in Germany (0.7%).

The French, German, Italian and Spanish governments have primarily used four instruments to offset the increase in energy prices: subsidies, tax cuts, price regulations (i.e. energy price freeze) and income indexation (via discretionary measures above and beyond existing automatic procedures to boost income). Most of the countries in the sample used the first two instruments, primarily targeting low-income households and SMEs in the sectors hit hardest by higher energy prices (transport, fishing, and agriculture). All of the governments in the countries under review implemented fuel-price rebates (EUR 0.18 euro a litre in France, EUR 0.25 in Italy, EUR 0.20 in Spain, and EUR 0.14 in Germany). This type of rebate has an indiscriminate impact on all users. Differences in the cost of these measures between France on the one hand and Italy and Spain on the other hand are mainly due to the cost of the natural gas and electricity tariff-shields imposed in France, which is the only country under review that has implemented them so far². Given the duration and scope of the inflationary shock, which is spreading beyond the energy component, governments are beginning to announce discretionary measures to boost household incomes (public sector wages, pensions), which will probably become the main focus of government actions. Below we review the main measures announced in Germany, France, Italy and Spain.

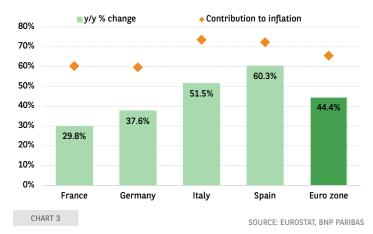
1 These figures are lower than the officially announced measures for two main reasons: 1. our estimates exclude all measures that were not directly related to curbing energy price increases (for example, we excluded new household and corporate credit lines, as well as the ceiling on rent increases introduced in Spain); and 2. in some cases, given the lack of available data, we had to extrapolate or estimate the cost of a measure based on minimum levels. 2 Yet, the EU Commission approved an initiative of gas price freeze at EUR 50/MWh, jointly proposed by Spain and Portugal as of 26 April 2022. As of the writing, the project is still under development.



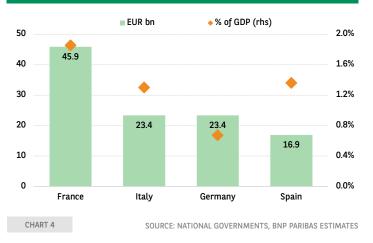


YEAR-ON-YEAR % CHANGE IN THE ENERGY COMPONENT OF THE HICP

YEAR-ON-YEAR % CHANGE IN THE ENERGY COMPONENT OF THE HICP AND CONTRIBUTION TO HEADLINE INFLATION IN MARCH 2022 (%)



TOTAL AMOUNT OF GOVERNMENT MEASURES IMPLEMENTED TO OFFSET RISING ENERGY PRICES



		Annual change (March 2022)	Weight in HICP (2022)	Share in total inflation
	Euro zone	41.2%	3.1%	17.4%
	Germany	17.6%	3.0%	6.9%
Electricity	Spain	107.8%	4.1%	44.7%
	France	6.0%	3.3%	3.8%
	Italy	82.3%	2.4%	28.9%
Gas	Euro zone	50.1%	2.2%	14.9%
	Germany	28.4%	2.9%	11.0%
	Spain	17.3%	1.5%	2.7%
	France	37.1%	1.9%	13.6%
	Italy	68.5%	2.3%	23.1%
Gasoline	Euro zone	89.1%	0.7%	8.8%
	Germany	95.3%	1.3%	15.9%
	Spain	83.0%	0.6%	5.1%
	France	84.0%	0.7%	12.3%
	Italy	37.2%	0.1%	0.4%

ANNUAL CHANGE AND CONTRIBUTION TO TOTAL INFLATION BY ENERGY SOURCE

This table illustrates how countries have a double exposure to price fluctuations for a specific energy source. For a given country, lines marked entirely in red, for example, indicate that price increases for a given energy source are not only higher than in neighbouring countries, but that they also account for a bigger share of household spending. This explains why its contribution to headline inflation was relatively higher in March 2022. Yellow lines correspond the median, meaning that a given country is moderately exposed to the rise of the concerned energy source price, compared to its counterparts. Green lines highlight the relatively limited exposure to the energy source concerned, compared to other countries.

TABLE 1

SOURCE: EUROSTAT, BNP PARIBAS

Germany

Until February 2022, the German government mainly acted via subsidies to low-income households and tax cuts on renewable energies (Renewable Energy Sources Act, EEG). These two measures amounted to less than EUR 10 bn. Yet surging energy prices, amplified by the war in Ukraine, have pushed the governing coalition to step up efforts to preserve purchasing power: reductions in the price of public transport tickets, rebates on fuel prices, a one-time EUR 300 transfer for taxpayers, and higher social welfare benefits for low-income families were all part of the EUR 15 bn programme announced on 24 March 2022 (see table 2).

France

France is one of the most proactive Western European countries in terms of anti-inflationary measures. A "tariff shield" was set up in October 2021 and is comprised of subsidies to low-income households in the form of energy voucher and inflation payments, as well as a freeze on regulated natural gas prices and a 4%-cap on electricity price increases. Price regulations account for nearly half of the funds budgeted to preserve household purchasing power. The ongoing rise in market prices and the extension of the freeze on natural gas prices through year-end 2022 (initially expiring in June) could add another EUR 10 bn to the cost of these measures this year, compared to an initial budget of

EUR 1.2 bn³. New measures were announced that will be implemented before the summer, and will further expand this line of attack, including food vouchers, public sector wage increases and higher pensions (see table 3).

Italy

Harder hit by higher natural gas prices than the other European countries, the Italian government's measures are targeted primarily to households and companies that predominantly use this source of energy. At the end of Q1 2022, most of the fiscal support measures implemented since October 2021 were comprised of a reduction in the VAT rate on natural gas, the elimination of the charge system and the social bonus. EUR 11 bn was spent between January and March 2022 out of a total budget of EUR 23.4 bn. In April 2022, however, the Bank of Italy indicated that the financing of these measures "should be covered by a reduction in other expenditures and by an increase in tax collection, including extra public revenues from a windfall tax on energy providers" (see table 4).⁴

Spain

Compared to its European neighbours, the Spanish government was the first to respond to the rise in energy prices. Starting in June 2021, it began reducing two key electricity tax rates, including the VAT rate.

3 Interview with Bruno Le Maire, BFM TV - March 2022 Price shield : Bruno Le Maire indicates a cost of « more than Eur 20 bn » - (https://www.bfmtv.com/economie/entreprises/energie/bouclier-tarifaire-bruno-le-maire-evoque-un-facture-de-plus-de-20-milliards-d-euros_AV-202203070188.html)
 4 Economic Bulletin, April 2022 (en-boleco-2-2022.pdf (bancaditalia.it))





These measures targeted consumers in particular, who had seen their energy bill double in March 2022 (+108% y/y in March 2022, nearly 60 points more than the Eurozone average). After the outbreak of war in Ukraine, new measures were announced that mainly target pump prices (rebates per litre of petrol, support for agriculture and ground transportation), notably in response to massive protest movements that have spread across large parts of the country in recent weeks. The cost could rise even further following the proposal to regulate natural gas prices for electrical power generation, which the European Commission granted in 26 April 2022 (see chart 5).

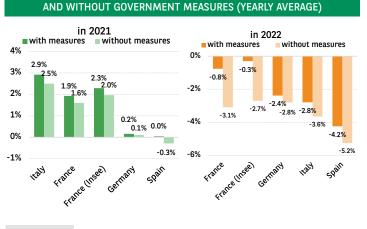
GOVERNMENT MEASURES WILL LIMIT THE LOSS OF PURCHA-SING POWER IN 2022, WITHOUT FULLY ELIMINATING IT

Will government measures suffice to preserve household purchasing power? Given the imperfect indexation of wages to inflation, wages tend to grow at a slower pace than prices, resulting in a net loss of purchasing power for wages, and probably, by extension, for disposable income. Government measures can offset this loss by influencing the two parameters of the equation: income growth, via subsidies, tax cuts and various measures to boost revenues, and lower inflation, via measures to regulate energy prices and fuel price rebates. The effectiveness of government measures can be assessed by the change in household purchasing power.

Based on the European Commission's forecast for gross disposable income⁵ of November 2021 (AMECO) and BNP Paribas inflation forecast for 2022⁶, we have quantified the impact of the various household support measures on the change in household purchasing power in 2022. We used the harmonised index of consumer prices (HICP) to ensure that our results are comparable. For France, we also presented our calculations using the INSEE consumer price index. Unlike Germany, Italy and Spain, we relied on the BNP Paribas's gross disposable income forecast for France for 2022, instead of those from the EU Commission.

Based on these calculations, we conclude that government actions should generally help ease but not eliminate the decline in purchasing power in 2022 (see charts 5 and 6). In the four countries under review, purchasing power should effectively decline in 2022 compared to the 2021 level, albeit to a more limited extent thanks to government measures. In Spain, household purchasing power will decline by about 4.2% in 2022, after stagnating in 2021. Italy will also be hard hit by the combination of a slowdown in gross disposable income and high inflation, with household purchasing power declining by 2.8% in $20\bar{2}2$ according to our estimates. In Germany and especially France, the loss of purchasing power will be smaller, at -2.4% and -0.8%, respectively.

Although there will still be a major loss of purchasing power in three of the four countries, it would have been much more painful without government measures. In place since the fall of 2021 for most of themand extended into full-year 2022 and based on our inflation forecasts, these measures have avoided a loss of purchasing power, ranging from 0.5 points in Germany to 2.7 points in France over the past two years

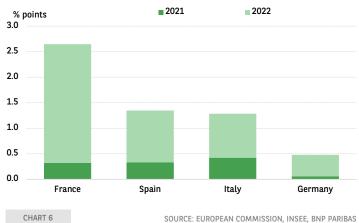


ANNUAL CHANGE OF HOUSEHOLDS' PURCHASING POWER, WITH

CHART 5

SOURCE: EUROPEAN COMMISSION, INSEE, BNP PARIBAS

AVOIDED LOSS OF PURCHASING POWER INDUCED BY GOVERNMENT SUPPORTS



SOURCE: EUROPEAN COMMISSION, INSEE, BNP PARIBAS

(see chart 6). The big differential between France and the other countries under review illustrates the effectiveness of the "tariff-shield" and the fuel price rebate, without which headline inflation in France would have averaged 6.7% in 2022, compared to an expected 5.3% based on the harmonised index7.

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5 The change in purchasing power not benefitting measures (labelled «without measures») is calculated from AMECO's gross disposable income forecasts for 2022, because, as the forecasts were published in November 2021, we consider that they did not yet include the measures announced by governments and deployed in 2022. We then deduct the change in purchasing power benefitting from «with measures» by adding to the GDI forecasts the amount of these various measures at work or announced for the year 2022. This method is applied for Italy, Germany and Spain. An opposite but equivalent approach is carried out for France: from BNP Paribas' GDI forecasts for 2022, in which the measures are already incorporated in the form of social benefits or gross salary increases, we remove the various amounts from this GDI forecast. We also incorporate gas and electricity price regulation measures and fuel-price rebate into headline inflation. This then allows us to obtain the change in purchasing power «without measures».
6 According to the AMECO Spring Forecast released in May 2022, the nominal gross disposable income is projected to rise by more than initially projected in November 2021 for the full year of 2022. This is mainly due to the inclusion of energy-related measures and strong labour labour market improvement. However, these factors will not prevent real household disposable income to decrease by 2.8%, at the EU level in 2022, according to the projections.
7 This spread is calculated based on counterfactual inflation that would be 1.5 points higher than the year-on-year figure of February 2022 without the freeze on electricity and natural gas prices, and 0.5 points higher without the rebates on pump price of May 2022, according to INSEE estimates (Note de Conjoncture, March 2022 - ndc-mars-2022.pdf and April 2022 - Point de conjoncture du 9 mai 2022 - Point de conjoncture | insee).



		GERMANY			
Policy tool	Energy-related measure	Cost of the mea- sure (EUR bn)	Start date	End date	Targeted population
Transfers to households and firms	One-off payment of 100 euros for recipients of social benefits (following a first EUR100- hike annonced in 2021)	2.2	Mar-22	-	Households receiving social be- nefits
	One-time EUR300 payment to all taxpayers and one-off EUR100 boost to child support	8.7	Mar-22	-	All workers in the first 5 tax brackets
	Grants to households through the increase of commuter's allowance and a one-off heating cost allowance	0.7	Sep-21	-	1.1 million low-income households
Tax cut	Cut on fuel tax for three months by EUR0.30/ litre for gasoline and EUR0.14/litre for diesel	2.7	Apr-22	Jul-22	All taxpayers
	Reduction in the price of public transport tickets to 9 euros per month	2.5	Apr-22	Jul-22	All taxpayers
	Abolition of the Renewable Energy Act (EEG) levy	6.6	Jul-22	-	All taxpayers
Price regulation	-	-	-	-	-
Total		23.4			

The EUR 15 bn programme announced in March 2022 comprises: 1) an EUR 100 increase in social welfare benefits allocated to 1.1 million low-income households (for a cost of EUR 1.1 bn); 2) a EUR 300 subsidy for 25 million payroll workers and an additional EUR 100 per child (for a cost of EUR 8.7 bn); 3) lower public transport ticket prices (for a cost of EUR 2.5 bn) and 4) a fuel tax cut, which should cost an estimated EUR 2.7 bn. The EEG renewable energy tax will be eliminated in July 2022 after being lowererd to 3.72 cents/kWh in January 2021. The EUR 0.5 bn in subsidies allocated to households is comprised of aid to low-income households (an inflation allowance and a bigger heating allowance), which targets 2 million households, including 370,000 students. Similar subsidies have been distributed since September 2021, but we did not include them in our breakdown given the Lack of official information.

TABLE 2

SOURCE: DEUTSCHLAND.DE, FEDERAL GOVERNMENT, IAMEXPAT, BNP PARIBAS



FRANCE						
Policy tool	Energy-related measure	Cost of the mea- sure (EUR bn)	Start date	End date	Targeted population	
Transfers to house holds and firms	Fuel price rebate of EUR0.18/litre	3	Apr-22	Jul-22	All taxpayers	
	Inflation allowance (EUR 100 per person)	3.8	Dec-21	-	38 million de taxpayers earning less than EUR 2000 net per month	
	3%-wage increase in the public sector	3	Jul-22	-	5.8 million civil servants	
	3%-increase in pensions benefits	3.75	Jul-22	-	17 million pensioners	
	Chèque alimentation	2	Jul-22	-	Low-income households, perimeter slightly lower than that of the beneficia- ries of the inflation allowance	
	Energy cheque	0.6	Dec-21	-	Low-income households	
	Special aids for firms	3	Mar-22	n.a	Companies whose energy expenditure weighs more than 3% of turnover, and whose gas or electricity bill has in- creased by more than 40% since the start of the war in Ukraine	
	Subsidies and reimbursement of 25% of the TICPE tax for farmers	0.4	Mar-22	Jul-22	Agricultural sector	
	Discount of 0.25EUR/litre for the fishing sector	n.a	Mar-22	Jul-22	Fishing industry	
	Grants to road transport	0.4	Mar-22	Jul-22	Road transport	
Tax cut	-	-	-	-	-	
Price regulation	4%-cap to rise in regulated electricity price, financed via the electricity tax cut (TICPE), supported by the government and the energy diomestic supplier EDF	16	Jan-22	Dec-22	Households and SMEs	
	Gas price freeze to their level of October 2021, with compension of the energy-supplier Engie	10	Oct-22	Dec-22	5 million residential consumers	
Total		45.9				

The reduction in pump prices will cost EUR 3 bn based on the assumption that a reduction of EUR 0.10 per litre costs EUR 5 bn in public finances over 12 months. Regulating electricity prices will cost a total of EUR 16 bn (EUR 8 bn of which will be covered by the government and the remainder by EDF). A 3% increase in public sector wages would cost EUR 6 bn over a full year, or EUR 3 bn for the last six months of 2022. An estimated 3% increase in pensions would cost EUR7.5 bn over a full year, or EUR 3.75 bn for the last six months of the year.

TABLE 3

SOURCE: FRENCH GOVERNMENT, MINISTRY OF THE ECOLOGICAL TRANSITION, ENERGY REGULATION COMMISSION, BNP PARIBAS



		ITALY	,		
Policy tool	Energy-related measure	Cost of the measure (EUR bn)	Start date	End date	Targeted population
Transfers to households and firms	Fuel price rebate of EUR 0.25/litre	2.9	Apr-22	May-22	All taxpayers
	One-off bonus of 200 euros sent to households	5.8	Jul-22	-	28 millions workers, unemployed and pensioners with incomes up to 35 thousand euros, and 60 euros for sudents
	Grants to road transport	0.5	Apr-22	-	Road transport
	Social Bonus	1.9	Sep-21	Sep-22	29 million households and 6 million micro-businesses
Tax cut	Tax credit to firms to cover energy costs and fuel pur- chases	4.1	Mar-22	n.a	Fishing, farming, transportation, energy-intensive activities
	Reduction in VAT rate on gas (22% to 5%)	1.7	Oct-21	Jun-22	29 million households and 6 million micro-businesses
	Elimination of general system charge for electricity and gas users	6.5	Oct-21	Mar-22	29 million households and 6 million micro-businesses with available power up to 16.5 kW
Price regulation	-	-	-	-	-
Total		23.4			

The social bonus can be broken down into an initial payment of EUR 450 m in Q4 2021, followed by a second wave of EUR 503 million in Q1 2022. The extension of the bonus into Q3 2022 should cost an extra EUR 450 million, bringing the total amount of the measure to EUR 1.4 bn. Since the VAT reduction is expected to cost EUR 842 million in Q1 2022, we used the same figure for the following quarter. The reduction in the charge system cost EUR 2.5 bn in Q4 2021 (EUR 1.2 bn and EUR 1.2 bn for natural gas and electricity users, respectively) and then EUR 4.02 bn in Q1 2022. The rebate on pump prices will cost EUR 961 million per month, and the recent extension of the measure to early July 2022 will increase the total cost to EUR 2.9 bn

TABLE 4

SOURCE: BANK OF ITALY, CONFCOMMERCIO, GAZZETTA UFFICIALE, ARERA, BNP PARIBAS



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SPAIN						
Policy tool	Energy-related measure	Cost of the measure (EUR bn)	Start date	End date	Targeted population	
Transfers to households and firms	Fuel price rebate of EUR 0,20/ litre	1.8	Apr-22	Jul-22	All taxpayers	
	2.5%-increase in pensions payments	6.5	Jan-22	Dec-22	11.9 million pensioners	
	Grants to the fishing industry	0.1	Mar-22	-	Fishing industry	
	Aids to the road transport	1.5	Mar-22	-	Road transport	
	Aids to the agricultural sector	0.4	Mar-22	-	Farming industry (farmers, dairy producers, livestock producers)	
Tax cut	Special tax on electricity (IEE) cut from 5.1% to 0.5%	3.5	Jun-21	Jul-22	All taxpayers	
	Suspension of the tax on Elec- tricity Production (IVPEE, from 7% rate)	1.6	Oct-21	Jun-22	This tax is levied at 7% on income from the sale of electricity on the wholesale market and is passed on to the price of said market and to the final bill.	
	Cuts in VAT on electricity (from 21% to 10% for certain customers)	1.7	Jun-21	Jul-22	27.7 million households, free- lancers and companies with a contracted power of up to 10 kilowatts	
Price Regulation	EUR50 per MWh cap on gas prices to produce electricity	n.a	May-22	May-23	Residential consumers with a regulated contract	
Total		16.9				

The fiscal cost of a EUR 0.20 reduction in pump prices, including EUR 0.15 subsidised by the government, is calculated based on the assumption that a EUR 0.01 reduction in pump prices costs the government EUR 350 million a year (we replicate the method used for France with a 30% discount, which corresponds to the 2021 spread between Spanish and French GDP per capita). As to the reduction in the electricity VAT rate and the IEE special tax on electricity, we assume that the fiscal costs reported in H2 2021 (EUR 0.857 bn and EUR 1.75 bn, respectively) will be the same in H2 2022.

TABLE 5 SOURCE: LA MONCLOA, MINISTRY OF AGRICULTURE, FISHING AND THE FOOD INDUSTRY, ENERGY TRANSITION MINISTRY, AND THE DEMOGRAPHIC CHALLENGE, BNP PARIBAS



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