

# ECOWEEK

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“ Wage growth and the input prices PMI, which historically have done a good job in explaining services inflation, will need to see a significant decline for services inflation to converge to 2.0%. This will take time. ”

ECONOMIC RESEARCH



**BNP PARIBAS**

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## EUROZONE: INFLATION THROUGH THE LENS OF BUSINESS SURVEYS - THE CASE OF SERVICES

The latest quarterly survey of the European Commission of factors limiting the production of companies shows that few services companies mention insufficient demand as an issue. The score of the financial factor is on the rise but remains below average. Supply side factors remain at exceptionally high levels. A priori, one would expect that the combination of strong demand and constrained supply will influence the price setting behaviour of companies. However, regression analysis shows that these factors only explain a small part of the fluctuation in services inflation. Wage growth and the input prices PMI do a far better job. They will need to see a significant decline for services inflation to converge to 2.0%. This will take time.

The quarterly survey of the European Commission of factors limiting the production of companies -insufficient demand, labour market bottlenecks, shortage of material and equipment, financial constraints- sheds an interesting light on the drivers of inflation in the Eurozone.

In a previous issue of Ecoweek, these data were used to analyse developments in industry<sup>1</sup>. The conclusion was that demand and supply factors are useful in explaining annual producer price inflation but that a considerable part of the latter's variation was unexplained. With this caveat in mind, the pace of disinflation might be slow considering that supply factors limiting production are still well above their long-term average, whereas the demand factor is close to normal.

What does this survey tell us about the services sector? Chart 1 shows the results in terms of z-score, to take into account differences in volatility between the various series. Few services companies mention insufficient demand as a factor limiting their production. The tightening of monetary policy that started last year has led to an increase of the number of companies mentioning financial factors as a constraint, but the overall score remains below the long-term average. Supply side factors -hiring difficulties, issues in terms of space and equipment- remain at exceptionally high levels. A priori, one would expect that the combination of strong demand and constrained supply will influence the price setting behaviour of companies and underpin service price inflation.

The univariate regressions in table 1 show a statistically significant relationship between services inflation and the demand and supply factors that influence production levels in services. However, the very low R<sup>2</sup>s show that a large part of the fluctuations in inflation are unexplained. In a multivariate regression, the R<sup>2</sup> improves but remains low (table 2). Moreover, the exceptionally high inflation in 2022 influences the regression results. When using data until the end of 2021 -the second part of table 2-, the demand and labour variables are significant but when using the full data set -the first part of table 2-, only the equipment and/or space factor is significant.

As mentioned, a low R<sup>2</sup> means that a considerable part of the fluctuations in inflation is unexplained, so other variables should be considered.

<sup>1</sup> Eurozone: Inflation through the lens of business surveys. The case of industry, Ecoweek, BNP Paribas, 17 July 2023.

### EUROZONE SERVICES: FACTORS LIMITING THE PRODUCTION (Z-SCORE)

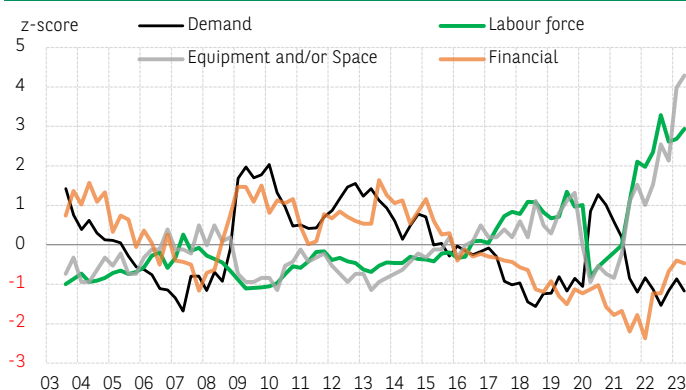


CHART 1

SOURCE: EUROPEAN COMMISSION, BNP PARIBAS CALCULATIONS

### EUROZONE SERVICES INFLATION: UNIVARIATE REGRESSIONS

Data range	2003Q3-2023Q1		
Dependent variable	services price inflation (y/y)		
Explanatory variable	Demand	Labour	Equipment and/or space
R Square	0.10	0.14	0.26
coefficient	0.000	0.000	0.005
t statistic	-2.91	3.58	5.20

TABLE 1

SOURCE: EUROPEAN COMMISSION, BNP PARIBAS CALCULATIONS

Wage growth and the input prices PMI, which historically have done a good job in explaining services inflation, will need to see a significant decline for services inflation to converge to 2.0%. This will take time.



## EUROZONE SERVICES INFLATION: MULTIVARIATE REGRESSIONS

Data range	2003Q3-2023Q1				2003Q3-2021Q4				
	Demand	Labour	Equipment and/or space	R Square	Multivariate	Demand	Labour	Equipment and/or space	R Square
R Square				0.29					0.30
coefficient	0.00004	-0.0004	0.0076			-0.0005	-0.0010	0.0023	
t statistic	0.25	-1.67	3.85			-3.64	-4.63	1.20	

TABLE 2

SOURCE: BNP PARIBAS

Wages are an obvious candidate considering that they represent a larger share of the cost base of services companies compared to industrial firms<sup>2</sup>. Input costs also play a role. They can be proxied by using the input prices PMI of S&P Global.

Using these two variables yields interesting results (table 3): both are statistically significant and the R<sup>2</sup> is 0.46, which is a lot better than the results in table 2, which are based on the European Commission survey. Chart 2 shows observed and estimated services inflation as well as the regression residuals. The latter tend to be small in periods without shocks but large during the global financial crisis, the Covid-19 pandemic and in 2022. The equation can also be used to conduct a scenario analysis (table 4). For services inflation to move back to 2.0% and supposing that the input prices PMI drops to 50.0 -in June it stood at 61.3 -, wage growth should slow to 3.4% -versus 5.1% in December 2022, the latest available data.

Based on the historical range of wages and input prices, such an outcome is clearly possible but giving the respective gaps with the latest data, the process is likely to be slow.

William De Vijlder

<sup>2</sup> According to research by the ECB, "labour costs are estimated to have represented about 40% of the cost structure in services and about 20% in industry excluding energy and construction in both 2008 and 2016." Source: What is behind the change in the gap between services price inflation and goods price inflation? ECB Economic Bulletin, issue 5/2019.

## EUROZONE SERVICES INFLATION, WAGE GROWTH AND INPUT PRICES PMI

Data range	March 2002 - December 2022		
Dependent variable	Services price inflation (y/y)		
Explanatory variables	Growth of wages and salaries (y/y)	PMI Input prices in services	R <sup>2</sup>
R Square			0.46
coefficient	0.0038	0.0005	
t statistic	8.88	7.63	

TABLE 3

SOURCE: EUROPEAN COMMISSION, BNP PARIBAS CALCULATIONS

## EUROZONE SERVICES INFLATION: OBSERVED VERSUS ESTIMATED

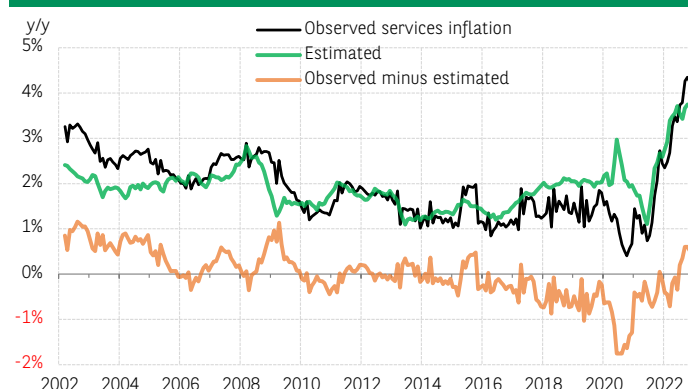


CHART 2

SOURCE: EUROSTAT, BNP PARIBAS CALCULATIONS

## EUROZONE: WAGES, INPUT PRICES AND ESTIMATED SERVICES INFLATION

	wage growth (y/y)	PMI Input prices									
		61.3	60	58	56	54	52	50	48	46	44
	5.14	3.2%	3.1%	3.0%	2.9%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%
	5	3.1%	3.1%	3.0%	2.9%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%
	4.75	3.0%	3.0%	2.9%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%	2.2%
	4.5	2.9%	2.9%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%	2.2%	2.1%
	4.25	2.8%	2.8%	2.7%	2.6%	2.5%	2.4%	2.3%	2.2%	2.1%	2.0%
	4	2.7%	2.7%	2.6%	2.5%	2.4%	2.3%	2.2%	2.1%	2.0%	1.9%
	3.75	2.7%	2.6%	2.5%	2.4%	2.3%	2.2%	2.1%	2.0%	1.9%	1.8%
	3.5	2.6%	2.5%	2.4%	2.3%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%
	3.25	2.5%	2.4%	2.3%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%
	3	2.4%	2.3%	2.2%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.5%

TABLE 4

SOURCE: BNP PARIBAS



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# MARKETS OVERVIEW

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## OVERVIEW

Week 14-7-23 to 21-7-23

↗ CAC 40	7 375	▶ 7 433	+0.8 %	
↗ S&P 500	4 505	▶ 4 536	+0.7 %	
↗ Volatility (VIX)	13.3	▶ 13.6	+0.3 pb	
↗ Euribor 3M (%)	3.66	▶ 3.72	+6.1 bp	
↗ Libor \$ 3M (%)	5.57	▶ 5.61	+4.1 bp	
↘ OAT 10y (%)	2.99	▶ 2.95	-4.4 bp	
↘ Bund 10y (%)	2.48	▶ 2.43	-4.9 bp	
↗ US Tr. 10y (%)	3.82	▶ 3.84	+1.5 bp	
↗ Euro vs dollar	1.12	▶ 1.11	-1.1 %	
↗ Gold (ounce, \$)	1 959	▶ 1 961	+0.1 %	
↗ Oil (Brent, \$)	79.9	▶ 81.1	+1.5 %	

## MONEY & BOND MARKETS

Interest Rates		highest 23	lowest 23	Yield (%)	highest 23	lowest 23
€ ECB	4.00	4.00 at 21/06	2.50 at 02/01	€ AVG 5-7y	2.64	2.64 at 02/01
Eonia	-0.51	-0.51 at 02/01	-0.51 at 02/01	Bund 2y	3.14	3.36 at 08/03
Euribor 3M	3.72	3.72 at 21/07	2.16 at 02/01	Bund 10y	2.43	2.75 at 02/03
Euribor 12M	4.16	4.19 at 07/07	3.30 at 19/01	OAT 10y	2.95	3.23 at 03/03
\$ FED	5.25	5.25 at 04/05	4.50 at 02/01	Corp. BBB	4.51	4.77 at 10/07
Libor 3M	5.61	5.61 at 21/07	4.77 at 02/01	\$ Treas. 2y	4.91	5.12 at 08/03
Libor 12M	6.04	6.04 at 30/06	4.70 at 20/03	Treas. 10y	3.84	4.06 at 02/03
£ BoE	5.00	5.00 at 22/06	3.50 at 02/01	High Yield	8.57	9.16 at 20/03
Libor 3M	5.50	5.54 at 17/07	3.87 at 02/01	£ gilt. 2y	4.92	5.51 at 06/07
Libor 12M	0.81	0.81 at 02/01	0.81 at 02/01	gilt. 10y	4.27	4.66 at 11/07

## EXCHANGE RATES

1€ =		highest 23	lowest 23	2023	
USD	1.11	1.12 at 14/07	1.05 at 05/01	+4.1%	
GBP	0.87	0.90 at 03/02	0.85 at 11/07	-2.5%	
CHF	0.96	1.00 at 24/01	0.96 at 13/07	-2.5%	
JPY	157.54	157.72 at 27/06	138.02 at 03/01	+11.9%	
AUD	1.65	1.67 at 26/04	1.53 at 27/01	+4.9%	
CNY	7.98	8.08 at 19/07	7.23 at 05/01	+7.5%	
BRL	5.31	5.79 at 04/01	5.20 at 23/06	-5.8%	
RUB	100.97	102.40 at 19/07	73.32 at 12/01	+29.6%	
INR	91.08	92.37 at 14/07	86.58 at 08/03	+3.2%	

At 21-7-23 Change

## COMMODITIES

Spot price, \$		highest 23	lowest 23	2023	2023(€)
Oil, Brent	81.1	88.2 at 23/01	71.9 at 12/06	-4.5%	-8.3%
Gold (ounce)	1 961	2 047 at 04/05	1 810 at 24/02	+8.0%	+3.7%
Metals, LME	3 749	4 404 at 26/01	3 564 at 24/05	-5.9%	-9.6%
Copper (ton)	8 423	9 331 at 23/01	7 852 at 24/05	+0.7%	-3.3%
wheat (ton)	237	2.9 at 13/02	216 at 30/05	-16.9%	-20.2%
Corn (ton)	222	2.7 at 13/02	200 at 12/07	-1.5%	-17.9%

At 21-7-23 Change

## EQUITY INDICES

Index	highest 23	lowest 23	2023	Year 2023 to 21-7, €
<b>World</b>				
MSCI World	3 029	3 048 at 19/07	2 595 at 05/01	+16.4%
<b>North America</b>				
S&P500	4 536	4 566 at 19/07	3 808 at 05/01	+18.1%
<b>Europe</b>				
EuroStoxx50	4 391	4 409 at 21/04	3 856 at 02/01	+15.8%
CAC 40	7 433	7 577 at 21/04	6 595 at 02/01	+15.5%
DAX 30	16 177	16 358 at 16/06	14 069 at 02/01	+16.2%
IBEX 35	9 572	9 645 at 03/07	8 370 at 02/01	+16.6%
FTSE100	7 664	8 014 at 20/02	7 257 at 07/07	+9.5%
<b>Asia</b>				
MSCI, loc.	1 211	1 231 at 03/07	1 065 at 04/01	+13.3%
Nikkei	32 304	33 753 at 03/07	25 717 at 04/01	+23.8%
<b>Emerging</b>				
MSCI Emerging (\$)	1 015	1 052 at 26/01	941 at 16/03	+0.6%
China	61	75 at 27/01	58 at 31/05	-4.1%
India	826	835 at 20/07	703 at 16/03	+6.1%
Brazil	1 684	1 691 at 21/06	1 296 at 23/03	+4.4%

At 21-7-23 Change

## PERFORMANCE BY SECTOR (Eurostoxx50 & S&P500)

	Year 2023 to 21-7, \$	
Retail	+68.2%	Car
Travel & leisure	+42.5%	Technology
Consumption Goods	+24.8%	Travel & leisure
Technology	+19.7%	Construction
Car	+18.4%	Retail
Construction	+13.6%	Index
Industry	+9.2%	Media
Banks	+7.7%	Financial services
Media	+6.7%	Industry
Index	+3.3%	Chemical
Utilities	+2.6%	Commodities
Health	+1.1%	Insurance
Chemical	+0.8%	Household & Care
Telecoms	-2.2%	Food industry
Insurance	-3.7%	Health
Food industry	-6.2%	Banks
Oil & Gas	-7.0%	Utilities
Real Estate	-7.5%	Oil & Gas
Commodities	-16.6%	Telecoms

SOURCE: REFINITIV, BNP PARIBAS

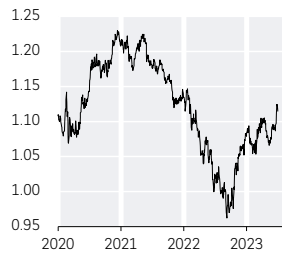


# BNP PARIBAS

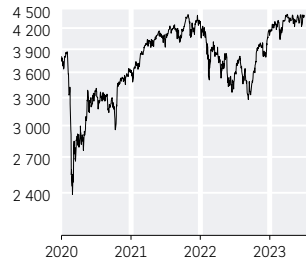
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# MARKETS OVERVIEW

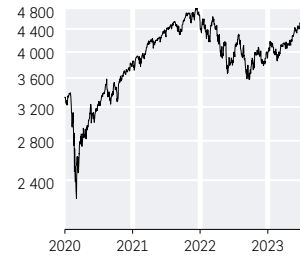
**EURO-DOLLAR**



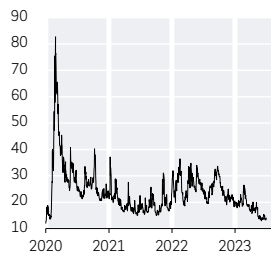
**EUROSTOXX50**



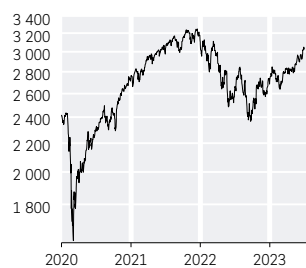
**S&P500**



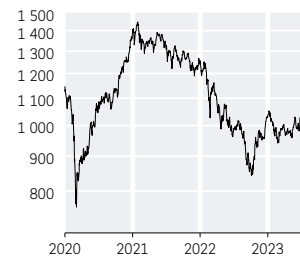
**VOLATILITY (VIX, S&P500)**



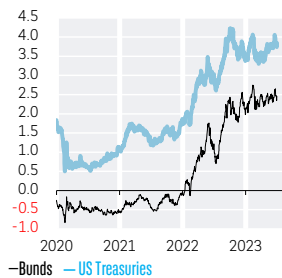
**MSCI WORLD (USD)**



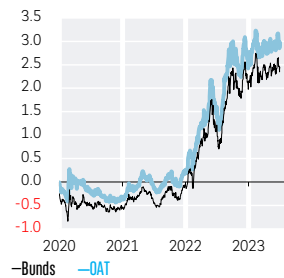
**MSCI EMERGING (USD)**



**10Y BOND YIELD, TREASURIES VS BUND**



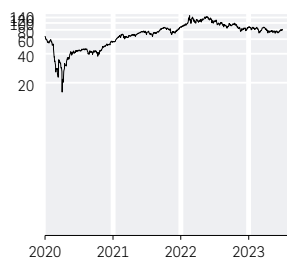
**10Y BOND YIELD**



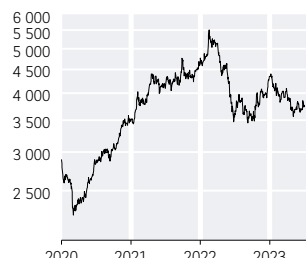
**10Y BOND YIELD & SPREADS**

Year 2023 to 21-7		
4.96%	Greece	253 bp
3.93%	Italy	150 bp
3.40%	Spain	97 bp
3.10%	Belgium	67 bp
3.09%	Portugal	66 bp
3.07%	Austria	64 bp
2.98%	Finland	55 bp
2.95%	France	52 bp
2.84%	Ireland	40 bp
2.79%	Netherlands	35 bp
2.43%	Germany	

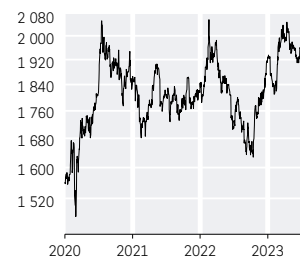
**OIL (BRENT, USD)**



**METALS (LME, USD)**



**GOLD (OUNCE, USD)**



SOURCE: REFINITIV, BNP PARIBAS

# ECONOMIC PULSE

## INTERNATIONAL TRADE: A (FRAGILE) RETURN TO NORMAL

After several months of improvement, global supply-chain disruptions appear to have bottomed out, and some signs of deterioration are emerging again. The synthetic indicator of the Federal Reserve of New York (FRNY; chart 3), which measures these tensions, rose slightly in June, for the first time in 2023, as did the PMI delivery times index, which is part of the FRNY aggregate indicator. Similarly, maritime freight has changed little in recent weeks: the Freightos index (chart 5) remained stable between mid-June and mid-July after another very significant fall of 40% during the first half of 2023. In particular, a decline can be seen in the costs of transporting crude oil: they had risen jumped last winter, due to the increase in energy demand, and have fallen sharply since (chart 4).

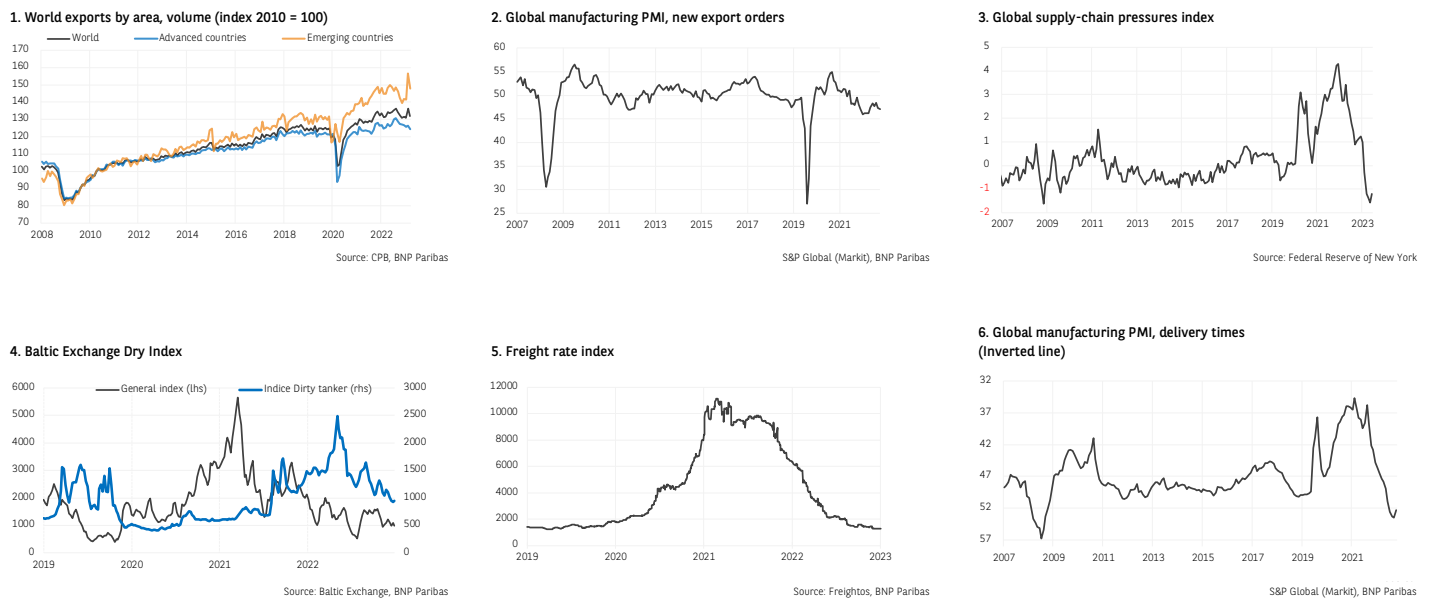
Meanwhile, world exports are levelling off reflecting fragile international demand. Exports do not stall, however, even if some leading indicators have deteriorated lately. According to the CPB, world exports increased by 0.6% between January and April 2023<sup>1</sup> but remained stable compared to their level observed twelve months earlier (chart 1). However, new export orders from Taiwan fell much more significantly (-24.9% year-on-year), reaching their lowest level in three years. The drop in recent months is almost generalised to all export products and regions, and in particular in Europe where the drop, year-on-year, reached 44.2%. The largest decline ever recorded.

Escalation of the conflict in Ukraine, record drought affecting certain maritime routes (Panama Canal, Rhine) or the emergence of social movements in response to the increase in the cost of living: the sources of disruption to world trade remain multiple and active. The threat of a strike in the postal transport sector in the United States constitutes one of the major risks of tension in this respect, which will be worth monitoring in the coming weeks. This strike, if it materializes, may have significant repercussions on American economic activity<sup>2</sup>.

Guillaume Derrien

<sup>1</sup> Data for the month of May will be published on July 25<sup>th</sup>.  
<sup>2</sup> See *UPS strike would cause 'massive harm' to US Economy*, Bloomberg, 18 July 2023

### INDICATORS OF INTERNATIONAL TRADE



# ECONOMIC SCENARIO

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## UNITED STATES

After a strong second half of 2022 (+0.7% q/q on average per quarter), US growth slowed slightly in Q1 2023 (+0.5% q/q), mainly because of the very negative contribution of changes in inventories. The impact of the tighter monetary policy on activity and employment growth was still contained in Q2, leading us to upwardly revise our near-term growth forecasts (Q2 growth a little more positive, Q3 a bit less negative), without abandoning our expectation of a slip into recession in Q3, as a result of the sharp monetary tightening. While the peak in inflation was reached in mid-2022, core disinflation remains gradual in such a way that headline inflation should stay significantly above the target of 2% by the end of 2023. The slow pace of disinflation argues in favor of keeping monetary policy in restrictive territory, despite the start of the easing cycle in spring 2024. This will limit the expected recovery in 2024.

## CHINA

Economic growth, which was sluggish and unbalanced in 2022, is accelerating in 2023. The end of the zero Covid policy has led to a rebound in private demand and activity in the services sector since late January, with household consumption benefiting from catch-up effects. However, the post-Covid is losing momentum surprisingly rapidly. Households remain prudent, as they are notably worried by the uncertain recovery in the labor market. The crisis in the property sector is persisting. Moreover, export and industrial production prospects are darkened by global demand weakness and tensions with the US. The government and the central bank should implement new policy stimulus measures, but they are likely to remain careful. In particular, the worrying financial situation of local governments should constrain public investment.

## EUROZONE

The euro zone slipped into technical recession in the first quarter of 2023. Initially estimated at +0.1% q/q, growth has been revised to -0.1% (after a decline of same magnitude in Q4 2022). This downward revision to growth was driven by Germany. A technical rebound is expected in Q2 but, after that, the build-up of the negative effects of monetary tightening would cause growth to fall back. After three quarters of stagnation, a limited recovery would follow. Although it is expected to decline throughout 2023, inflation would remain elevated and well above the 2% target at the end of this year and still a bit above at the end of 2024, forcing monetary policy to remain in restrictive territory.

## FRANCE

Real GDP growth increased in Q1 2023 (0.2% q/q in Q1, after 0% in Q4 2022) driven by transport equipment's exports. However, household demand has played on the downside: household consumption stabilized (+0.1% q/q) in Q1 after -1% q/q in Q4 2022 whereas their investment decreased by 2.3% q/q in Q1 (after -1.2% in Q4). As inflation is still high (with a peak of 7.3% y/y in February 2023 according to the harmonized measure) and because of rising interest rates, household demand should remain subdued in 2023, weighing on our GDP growth forecast (0.5% in 2023, compared to 2.5% in 2022).

## RATES AND EXCHANGE RATES

In the US, the Federal Reserve skipped the June meeting but we expect one last hike at the July meeting given continued high core inflation and a resilient labour market so far. The slow pace of disinflation argues against a rate cut before the beginning of 2024, despite the US economy entering recession in the second half of 2023. The peak in long-term yields is likely to have been reached. Bond yields should subsequently move lower as the inflation outlook improves and the market starts anticipating monetary policy easing in 2024.

The ECB hiked again at its June meeting and more is to come. While inflation shows encouraging signs of easing, it is not yet sufficient to end the tightening cycle. We expect a terminal rate for the deposit rate at 4.00% in Q3. As part of its monetary tightening, the ECB also announced a complete halt, starting in July 2023, of its reinvestments

under the APP. European long-term rates probably have peaked and should move lower, driven by both a gradual decline in inflation in the eurozone and lower US yields.

In December 2022, the Bank of Japan increased the upper end of its target range for the 10-year JGB yield to 0.5%. Further adjustments to the yield curve control policy cannot be excluded, given that the country currently faces the fastest rate of inflation since the early 1990s. Nevertheless, the BoJ is unlikely to increase its policy rates this year, but a rise is expected in 2024.

We expect the dollar to weaken somewhat versus the euro. The dollar's valuation is expensive, positioning in the market is very long and the long-term interest rate differential should narrow. We expect the yen to remain around current levels in the near term before strengthening versus the dollar considering that the federal funds rate should have reached its terminal rate.

### GDP GROWTH AND INFLATION

%	GDP Growth*				Inflation**			
	2021	2022	2023 e	2024 e	2021	2022	2023 e	2024 e
United-States	5.9	2.1	1.5	-0.1	4.7	8.0	4.1	2.6
Japan	2.2	1.0	1.5	1.0	-0.2	2.5	3.1	1.8
United-Kingdom	7.6	4.1	0.4	0.0	2.6	9.0	7.5	2.9
Euro Area	5.3	3.5	0.4	0.6	2.6	8.4	5.5	2.8
Germany	2.6	1.9	-0.4	0.5	3.2	8.6	6.0	2.6
France	6.8	2.6	0.5	0.6	2.1	5.9	5.6	2.2
Italy	7.0	3.8	1.3	1.0	1.9	8.7	5.9	2.0
Spain	5.5	5.5	2.4	1.5	3.0	8.3	3.1	2.5
China	8.4	3.0	5.3	4.8	0.9	2.0	0.5	2.0
India***	8.7	7.2	6.1	6.5	5.5	6.7	5.5	4.5
Brazil	5.0	2.9	2.5	0.5	8.3	9.3	4.7	4.0

Source : BNP Paribas (e: Estimates & forecasts)

\* Last update 30 June 2023: GDP Italy and Spain, Last update 8 June 2023: GDP Japan, Last update 2 June 2023: GDP US and Brazil, Last update 27 June 2023: GDP UK, Last update 28 May 2023: GDP Germany, Last update 21 July 2023: GDP China

\*\* Last update 27 June 2023: inflation UK, Last update 13 June 2023: inflation Brazil, Last update 12 July 2023: inflation US, Eurozone, Germany, France, Italy, Spain, Last update 21 July 2023: inflation China, Last update 30 June 2023: inflation Japan

\*\*\* Fiscal year from 1st April of year n to March 31st of year n+1

### INTEREST AND EXCHANGE RATES

Interest rates, %		Q2 2023	Q3 2023	Q4 2023	Q4 2024
End of period					
US	Fed Funds (upper limit)*	5.25	5.50	5.50	3.75
	T-Note 10y **	3.90	3.90	3.85	3.55
Eurozone	deposit rate*	3.50	4.00	4.00	3.00
	Bund 10y **	2.60	2.45	2.20	2.00
	OAT 10y	3.15	3.00	2.72	2.50
	BTP 10y	4.60	4.70	4.45	3.80
	BONO 10y	3.60	3.55	3.30	2.90
UK	Base rate*	5.00	5.75	5.75	4.00
	Gilts 10y **	4.50	4.40	4.25	3.80
Japan	BoJ Rate	-0.10	-0.10	-0.10	0.10
	JGB 10y**	0.45	0.50	0.65	0.80

Exchange Rates		Q2 2023	Q3 2023	Q4 2023	Q4 2024
End of period					
USD	EUR / USD	1.10	1.10	1.12	1.18
	USD / JPY	133	133	130	123
	GBP / USD	1.24	1.25	1.27	1.34
EUR	EUR / GBP	0.89	0.88	0.88	0.88
	EUR / JPY	146	146	146	145

Brent		Q2 2023	Q3 2023	Q4 2023	Q4 2024
End of period					
Brent	USD/bbl	85	83	90	95

Sources: BNP Paribas (Market Economics, Interest Rate Strategy, FX Strategy, Commodities Desk Strategy)

\* Deposit rate: Last update at 27 April 2023, Fed Funds : 2 June 2023, BoE rate: 22 June 2023

\*\* Bund 10y: last update at 3 May 2023, Gilts 10y: 15 June 2023, JGB 10y: 22 June, US 10y: 5 June 2023



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