

# ECOWEEK

Issue 23.11  
13 March 2023

“ IN THE US, DECISIONS BY THE FEDERAL RESERVE WILL MORE THAN EVER BE DATA-DEPENDENT. ”

ECONOMIC RESEARCH



**BNP PARIBAS**

The bank  
for a changing  
world

# TABLE OF CONTENT

---

3

## EDITORIAL

Monetary policy's long and variable lags: the case of the United States

---

5

## MARKETS OVERVIEW

Recent market developments (foreign exchange, stock markets, interest rates, commodities, etc.)

---

7

## ECONOMIC PULSE

Analysis of some recent economic data: global PMI

---

8

## ECONOMIC SCENARIO

Main economic and financial forecasts

---

11

## FURTHER READING

Latest articles, charts, videos and podcasts of Economic Research



## MONETARY POLICY'S LONG AND VARIABLE LAGS: THE CASE OF THE US

The Federal Reserve's Senior Loan Officer Opinion Survey sheds light on how changes in monetary policy influence banks' credit standards and expected loan demand. Based on the historical relationships, the latest survey points towards a high likelihood of average negative growth of the volume of company and household investments over the next several quarters. Moreover, recent research shows that since 2009, the maximum impact of monetary policy on inflation may be reached more quickly. Based on the relationship between credit standards, expected credit demand and investments by companies and households, as well as on the possibility that transmission lags have shortened, decisions by the Federal Reserve will more than ever be data-dependent.

Changes in official interest rates influence economic growth and inflation through a variety of channels whereby the effects tend to manifest themselves with long and variable lags. In a recent EcoWeek, using data from the ECB's quarterly bank lending survey, the relationship has been analysed between, on the one hand, credit standards applied by banks and expected loan demand, and on the other hand, growth in the subsequent quarters in the volume of company investments, household investments and household consumption<sup>1</sup>. Tighter credit standards tend to be followed by slower growth of company investments and households' housing investments but the relationship with household consumption is very weak. When banks expect credit demand to be weak (strong), subsequent growth of company investments and households' housing investments tends to be weak (strong). The relationship with household consumption is again very weak.

We have conducted a similar analysis for the United States, based on the Federal Reserve's Senior Loan Officer Opinion Survey (SLOOS) and the results are shown in charts 1-6 as well as in table 1, which reports the regression coefficient and R<sup>2</sup> for various time windows<sup>2</sup>. There is a clear negative relationship between the net number of banks reporting tighter credit standards for commercial and industrial loans and the average real growth of company investments over the next 6 quarters (chart 1). When banks expect weak (strong) credit demand from companies, the subsequent growth of company investments tends to be weak (strong) too (chart 2). The vertical lines show that in the latest survey (January 2023), compared to history, credit standards were already tight and expected loan demand weak.

Turning to household investments, which mainly consist of the purchase and renovation of dwellings, a negative relationship is also found between banks' credit standards and the average real growth of housing investments over the next 4 quarters (chart 3). Weak expected credit demand is associated with a contraction in household investments in the following quarters as well (chart 4). In the latest SLOOS, credit standards were, compared to the historical range, already rather tight, whereas expected loan demand was very weak and close to the historical lows<sup>3</sup>. Finally, with respect to household spending, like in the Eurozone, the relationships with credit standards and expected demand are very weak although they have the expected sign.

These results point towards a high likelihood of average negative growth of the volume of company and household investments over the next several quarters unless other factors would play a counterbalancing role<sup>4</sup>. One such factor could be an early end of the tightening cycle by the Federal Reserve, which could boost confidence by reducing

### REGRESSION COEFFICIENT AND R<sup>2</sup> FOR VARIOUS TIME WINDOWS

| Time   | Credit standards   |        | Credit demand |        |
|--------|--|--------|---------------|--------|
|        | <b>Commercial and industrial loans and company investments</b> |        |               |        |
|        | beta   | R2     | beta          | R2     |
| 4Q     | -0.0462  | 0.4815 | 0.0341        | 0.3236 |
| 6Q     | -0.0416  | 0.5017 | 0.03          | 0.3153 |
| 8Q     | -0.0349  | 0.4346 | 0.0261        | 0.2954 |
| Sample | Q3 1991 - Q1 2023  |        |               |        |
|        | <b>Mortgage loans and household investments</b>                |        |               |        |
|        | beta   | R2     | beta          | R2     |
| 4Q     | 0.0502   | 0.0926 | 0.0469        | 0.4134 |
| 6Q     | 0.0275   | 0.0484 | 0.0317        | 0.2846 |
| 8Q     | 0.0189   | 0.0461 | 0.0154        | 0.129  |
| Sample | Q1 2015 - Q1 2023  |        |               |        |
|        | <b>Consumer credit loans and household consumption</b>         |        |               |        |
|        | beta   | R2     | beta          | R2     |
| 4Q     | -0.0009  | 0.0004 | -0.0004       | 0      |
| 6Q     | 0.0032   | 0.0113 | -0.0017       | 0.0021 |
| 8Q     | 0.0064   | 0.0632 | -0.0012       | 0.0017 |
| Sample | Q1 2011 - Q1 2023  |        |               |        |

TABLE

SOURCE: FEDERAL RESERVE, BNP PARIBAS

fears of a further hit to growth from higher rates. However, based on recent data -labour market, inflation- as well as comments by Federal Reserve officials, additional rate hikes still are to be expected. The further cumulative tightening will be data-dependent but it will also be influenced by the expected transmission speed of monetary policy.

The latter point was addressed in a recent speech by Lael Brainard in which she mentions research of 2004 and 2015 showing that "it takes about 9 and 12 months ... for monetary policy actions to begin to affect inflation and additional time for that effect to peak". However, more recent research finds that "inflation effects from monetary policy occur much sooner and peak within the first 10 months."<sup>5</sup> Recent research by the Federal Reserve of Kansas City also points towards an acceleration of the effect of monetary tightening on inflation -with a maximum effect coming after 12 months- due to the use since 2009 of the central bank's balance sheet (quantitative easing, quantitative tightening) as well as forward-guidance<sup>6</sup>.

<sup>1</sup> Monetary policy's long and variable lags: the case of the Eurozone, EcoWeek, 27 February 2023, BNP Paribas.

<sup>2</sup> The table reports three time windows for the growth of investments and spending. The charts show the time windows with the highest R<sup>2</sup>.

<sup>3</sup> For credit standards and credit demand related to mortgage loans, the data in the charts start in 2015, which may bias the results.

<sup>4</sup> The R<sup>2</sup>s remind us that credit standards and expected demand only explain part of the fluctuations in the growth of investments. This is especially the case for household investments.

<sup>5</sup> Source: Staying the Course to Bring Inflation Down, Remarks by Lael Brainard, Vice Chair Board of Governors of the Federal Reserve System, at the University of Chicago Booth School of Business Chicago, Illinois, January 19, 2023. Footnote 7 in this speech reports on the empirical estimates of transmission speed.

<sup>6</sup> Source: Taeyoung Doh and Andrew T. Foerster, "Have Lags in Monetary Policy Transmission Shortened?" Economic Bulletin, Federal Reserve Bank of Kansas City, December 2022.



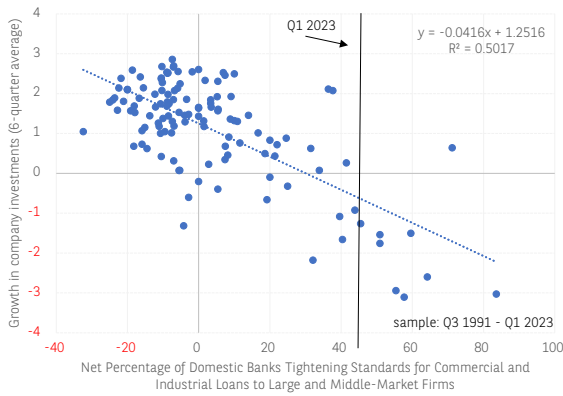
# EDITORIAL

According to the authors, the use of a broader range of instruments implies the risk of underestimating the effect of monetary tightening if one would only focus on the federal funds rate. Such underestimation would imply an overestimation of the lag between changes in monetary policy and its effect on inflation.

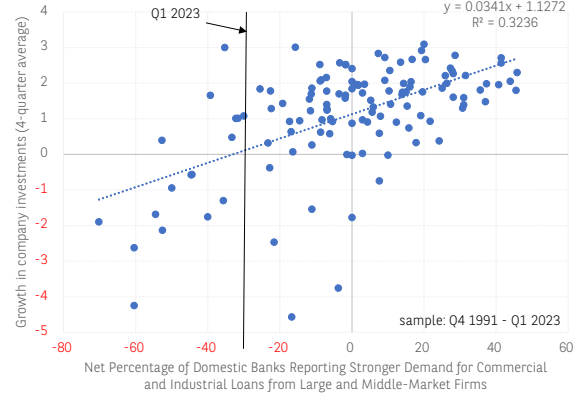
To conclude, based on the relationship between credit standards, expected credit demand and investments by companies and households, as well as on the possibility that transmission lags may have shortened, decisions by the central bank will more than ever be data-dependent.

William De Vijlder

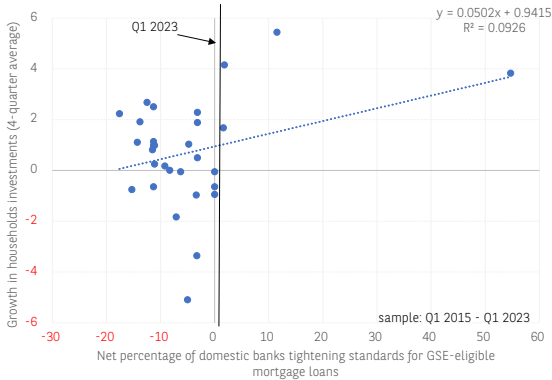
## US: BANKS' STANDARDS ON COMMERCIAL AND INDUSTRIAL LOANS AND COMPANY INVESTMENTS



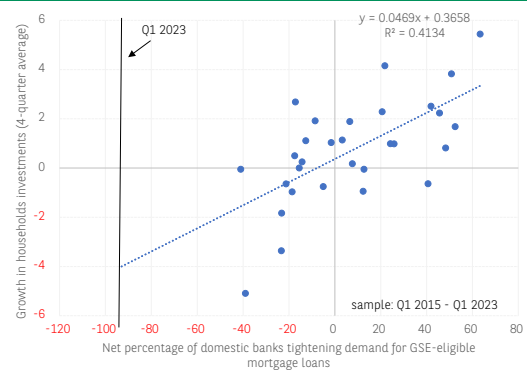
## US: DEMAND FOR COMMERCIAL AND INDUSTRIAL LOANS AND COMPANY INVESTMENTS



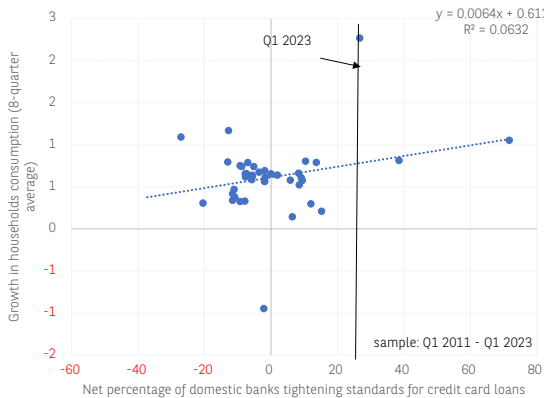
## US: BANKS' STANDARDS ON MORTGAGE LOANS AND HOUSEHOLD INVESTMENTS



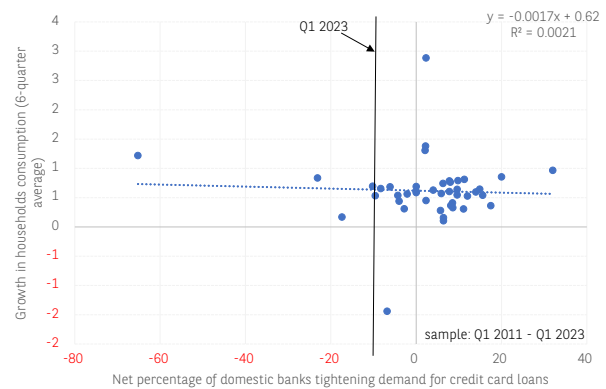
## US: DEMAND FOR MORTGAGE LOANS AND HOUSEHOLD INVESTMENTS



## US: BANKS' STANDARDS ON HOUSEHOLD LOANS AND HOUSEHOLD CONSUMPTION



## US: DEMAND FOR HOUSEHOLD LOANS AND HOUSEHOLD CONSUMPTION



CHARTS 1-6

SOURCE: FEDERAL RESERVE, REFINITIV, BNP PARIBAS

# MARKETS OVERVIEW

## OVERVIEW

Week 3-3 23 to 10-3-23

|                    |       |         |          |
|--------------------|-------|---------|----------|
| ▼ CAC 40           | 7 348 | ▶ 7 221 | -1.7 %   |
| ▼ S&P 500          | 4 046 | ▶ 3 862 | -4.5 %   |
| ↔ Volatility (VIX) | 18.5  | ▶ 24.8  | +6.3 pb  |
| ↔ Euribor 3M (%)   | 2.85  | ▶ 2.98  | +12.9 bp |
| ↔ Libor \$ 3M (%)  | 4.98  | ▶ 5.14  | +15.4 bp |
| ▼ OAT 10y (%)      | 3.23  | ▶ 2.96  | -26.5 bp |
| ▼ Bund 10y (%)     | 2.72  | ▶ 2.50  | -21.9 bp |
| ▼ US Tr. 10y (%)   | 3.96  | ▶ 3.69  | -26.8 bp |
| ↔ Euro vs dollar   | 1.06  | ▶ 1.07  | +0.8 %   |
| ↔ Gold (ounce, \$) | 1 846 | ▶ 1 859 | +0.7 %   |
| ▼ Oil (Brent, \$)  | 86.0  | ▶ 82.8  | -3.7 %   |

### Interest Rates

|             |       | highest 23     | lowest 23      |  |
|-------------|-------|----------------|----------------|--|
| € ECB       | 3.00  | 3.00 at 08/02  | 2.50 at 02/01  |  |
| Eonia       | -0.51 | -0.51 at 02/01 | -0.51 at 02/01 |  |
| Euribor 3M  | 2.98  | 2.98 at 10/03  | 2.16 at 02/01  |  |
| Euribor 12M | 3.95  | 3.98 at 09/03  | 3.30 at 19/01  |  |
| \$ FED      | 4.75  | 4.75 at 02/02  | 4.50 at 02/01  |  |
| Libor 3M    | 5.14  | 5.15 at 09/03  | 4.77 at 02/01  |  |
| Libor 12M   | 5.74  | 5.88 at 08/03  | 5.25 at 03/02  |  |
| £ BoE       | 4.00  | 4.00 at 02/02  | 3.50 at 02/01  |  |
| Libor 3M    | 4.34  | 4.36 at 08/03  | 3.87 at 02/01  |  |
| Libor 12M   | 0.81  | 0.81 at 02/01  | 0.81 at 02/01  |  |

At 10-3-23

## MONEY & BOND MARKETS

|              |      | highest 23    | lowest 23     |
|--------------|------|---------------|---------------|
| Yield (%)    |      |               |               |
| € AVG 5-7y   | 2.64 | 2.64 at 02/01 | 2.64 at 02/01 |
| Bund 2y      | 3.12 | 3.36 at 08/03 | 2.46 at 17/01 |
| Bund 10y     | 2.50 | 2.75 at 02/03 | 1.98 at 18/01 |
| OAT 10y      | 2.96 | 3.23 at 03/03 | 2.42 at 18/01 |
| Corp. BBB    | 4.57 | 4.75 at 03/03 | 3.95 at 02/02 |
| \$ Treas. 2y | 4.65 | 5.12 at 08/03 | 4.08 at 18/01 |
| Treas. 10y   | 3.69 | 4.06 at 02/03 | 3.38 at 18/01 |
| High Yield   | 8.88 | 9.01 at 02/01 | 7.94 at 02/02 |
| £ gilt. 2y   | 3.92 | 4.10 at 09/03 | 3.15 at 02/02 |
| gilt. 10y    | 3.53 | 3.78 at 02/03 | 3.00 at 02/02 |

At 10-3-23

## EXCHANGE RATES

| 1€ = |        | highest 23      | lowest 23       | 2023  |
|------|--------|-----------------|-----------------|-------|
| USD  | 1.07   | 1.09 at 02/02   | 1.05 at 05/01   | +0.1% |
| GBP  | 0.88   | 0.90 at 03/02   | 0.87 at 19/01   | -0.5% |
| CHF  | 0.98   | 1.00 at 24/01   | 0.98 at 10/03   | -0.5% |
| JPY  | 143.57 | 145.27 at 01/03 | 138.02 at 03/01 | +2.0% |
| AUD  | 1.61   | 1.61 at 10/03   | 1.53 at 27/01   | +2.4% |
| CNY  | 7.44   | 7.44 at 10/03   | 7.23 at 05/01   | +0.3% |
| BRL  | 5.52   | 5.79 at 04/01   | 5.40 at 08/03   | -2.1% |
| RUB  | 81.41  | 81.41 at 10/03  | 73.32 at 12/01  | +4.5% |
| INR  | 87.69  | 89.91 at 02/02  | 86.58 at 08/03  | -0.7% |

At 10-3-23 Change

## COMMODITIES

| Spot price, \$ |       | highest 23     | lowest 23      | 2023   | 2023(€) |
|----------------|-------|----------------|----------------|--------|---------|
| Oil, Brent     | 82.8  | 88.2 at 23/01  | 78.0 at 04/01  | -2.4%  | -2.6%   |
| Gold (ounce)   | 1 859 | 1 935 at 24/01 | 1 810 at 24/02 | +2.4%  | +2.3%   |
| Metals, LME    | 3 933 | 4 404 at 26/01 | 3 905 at 05/01 | -1.3%  | -1.4%   |
| Copper (ton)   | 8 847 | 9 331 at 23/01 | 8 236 at 04/01 | +5.8%  | +5.6%   |
| wheat (ton)    | 246   | 2.9 at 13/02   | 241 at 09/03   | -13.9% | -14.0%  |
| Corn (ton)     | 241   | 2.7 at 13/02   | 239 at 09/03   | -0.7%  | -7.4%   |

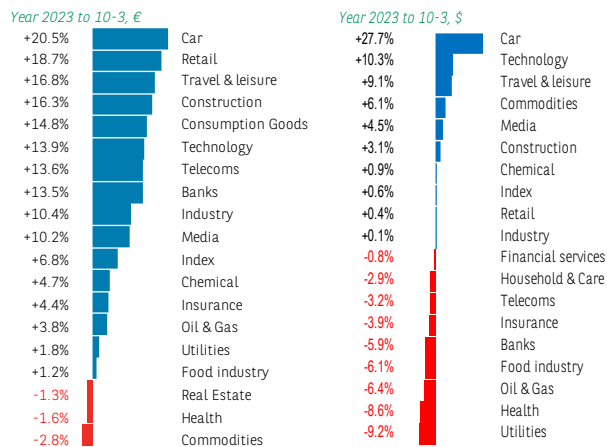
At 10-3-23 Change

## EQUITY INDICES

|                      | Index  | highest 23      | lowest 23       | 2023   |
|----------------------|--------|-----------------|-----------------|--------|
| <b>World</b>         |        |                 |                 |        |
| MSCI World           | 2 657  | 2 848 at 02/02  | 2 595 at 05/01  | +2.1%  |
| <b>North America</b> |        |                 |                 |        |
| S&P500               | 3 862  | 4 180 at 02/02  | 3 808 at 05/01  | +0.6%  |
| <b>Europe</b>        |        |                 |                 |        |
| EuroStoxx50          | 4 230  | 4 314 at 06/03  | 3 856 at 02/01  | +11.5% |
| CAC 40               | 7 221  | 7 373 at 06/03  | 6 595 at 02/01  | +1.2%  |
| DAX 30               | 15 428 | 15 654 at 06/03 | 14 069 at 02/01 | +10.8% |
| IBEX 35              | 9 285  | 9 511 at 06/03  | 8 370 at 02/01  | +1.3%  |
| FTSE100              | 7 748  | 8 014 at 20/02  | 7 452 at 02/01  | +0.4%  |
| <b>Asia</b>          |        |                 |                 |        |
| MSCI, loc.           | 1 119  | 1 143 at 09/03  | 1 065 at 04/01  | +0.5%  |
| Nikkei               | 28 144 | 28 623 at 09/03 | 25 717 at 04/01 | +7.9%  |
| <b>Emerging</b>      |        |                 |                 |        |
| MSCI Emerging (\$)   | 955    | 1 052 at 26/01  | 955 at 10/03    | -0.0%  |
| China                | 62     | 75 at 27/01     | 62 at 10/03     | -2.0%  |
| India                | 725    | 786 at 18/01    | 712 at 28/02    | -6.8%  |
| Brazil               | 1 406  | 1 574 at 25/01  | 1 357 at 04/01  | -5.8%  |

At 10-3-23 Change

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

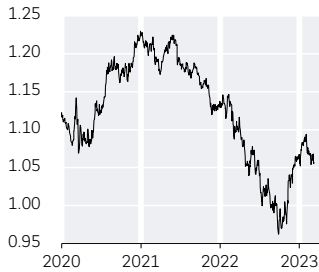


SOURCE: REFINITIV, BNP PARIBAS,

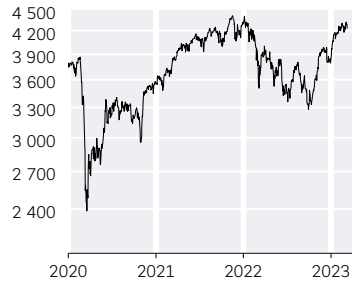


# MARKETS OVERVIEW

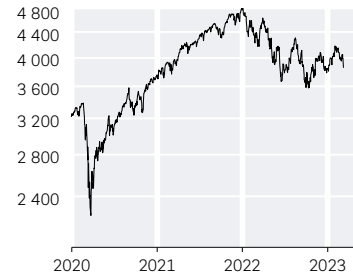
**EURO-DOLLAR**



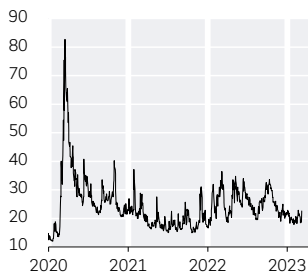
**EUROSTOXX50**



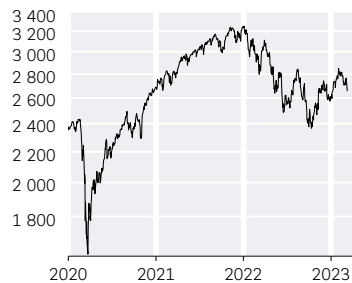
**S&P500**



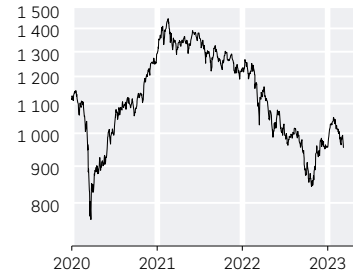
**VOLATILITY (VIX, S&P500)**



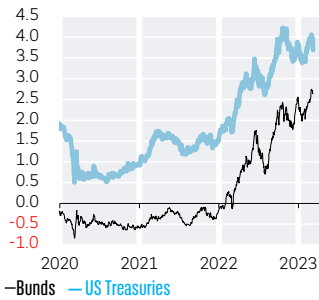
**MSCI WORLD (USD)**



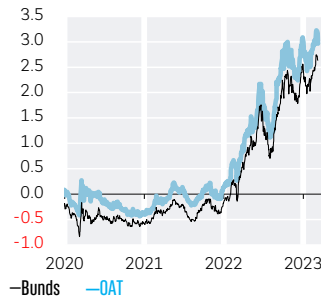
**MSCI EMERGING (USD)**



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



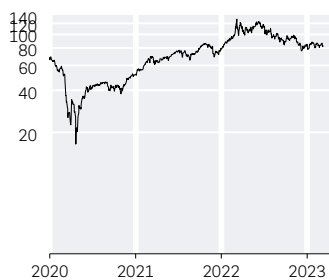
**10Y BOND YIELD**



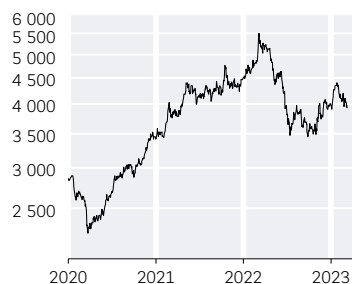
**10Y BOND YIELD & SPREADS**

| Year 2023 to 10-3 |             |        |
|-------------------|-------------|--------|
| 4.79%             | Greece      | 229 bp |
| 4.24%             | Italy       | 173 bp |
| 3.48%             | Spain       | 98 bp  |
| 3.29%             | Portugal    | 78 bp  |
| 3.16%             | Austria     | 66 bp  |
| 3.11%             | Belgium     | 61 bp  |
| 3.09%             | Finland     | 59 bp  |
| 2.96%             | France      | 46 bp  |
| 2.91%             | Ireland     | 41 bp  |
| 2.81%             | Netherlands | 30 bp  |
| 2.50%             | Germany     |        |

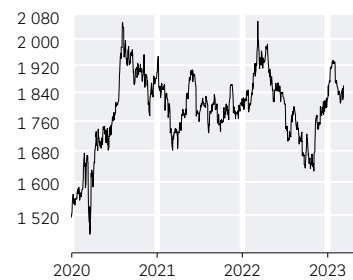
**OIL (BRENT, USD)**



**METALS (LME, USD)**



**GOLD (OUNCE, USD)**



SOURCE: REFINITIV, BNP PARIBAS,



# ECONOMIC PULSE

## PMI: SHORTER DELIVERY TIMES WORLDWIDE

February S&P Global PMI data provided good news overall. One of the key results is the recovery in China’s manufacturing PMI, which reached 51.6, its highest level in eight months (compared with 49.2 in January). This improvement is linked to the gradual recovery in factory production since the lifting of health restrictions. In the eurozone, the figures are mixed down in France, Germany and Austria, but up quite sharply in Spain, Italy and Ireland. In the United States and Japan, the index remained below the 50-point threshold, i.e. in a contracting zone for the fourth consecutive month (Table 1).

The new orders component continued its rebound in February, coming closer to the 50-point mark at the worldwide level, driven by an improvement in supply chains and the end of health restrictions in China. This manufacturing subindex increased sharply in the United Kingdom, China, Vietnam and, to a lesser extent, Spain, Italy, Greece and Ireland. In contrast, it fell sharply in France and, in a more limited way, in Japan (Table 2).

The manufacturing employment sub-index has also increased globally, driven by its sharp rise in China, the United States, the United Kingdom and more slightly in the euro area. On the other hand, it retreated in France and the Netherlands. Notably, this employment subindex remains above the 50-point threshold in 28 of the 34 countries for which February data are available (Table 3).

The input price sub-index fell sharply in February in all developed countries, with the exception of Spain, where it recovered somewhat. It also declined in China and Indonesia, but to a lesser extent (Table 4). The manufacturing output price sub-index remained stable at the global level, masking a fairly sharp rise in the United States, Spain and Japan and a sharp fall in France, Germany, Austria, the Netherlands and Italy (Table 5).

As a further sign of diminishing tensions on the supply side, delivery times in the manufacturing sector have improved above the 50-point threshold for the first time since July 2009, with a shortening in particular in the US, euro area and China (Table 6).

Finally, the services PMI rose in February compared to the previous month in almost all countries in our sample, except Brazil. It increased markedly in the United States, France, Spain, the United Kingdom and Ireland (Table 7).

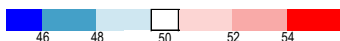
Tarik Rharrab

### MANUFACTURING PMI

| WD     | Developed Markets |      |           |         |         |        |         |        |         |       |             |       |              |      |           |             | Emerging countries |           |        |        |                |        |        |        |                      |         |              |              |      |       |           |       |           |         |
|--------|-------------------|------|-----------|---------|---------|--------|---------|--------|---------|-------|-------------|-------|--------------|------|-----------|-------------|--------------------|-----------|--------|--------|----------------|--------|--------|--------|----------------------|---------|--------------|--------------|------|-------|-----------|-------|-----------|---------|
|        | NA                |      | Europe    |         |         |        |         |        |         |       |             |       | Asia-Oceania |      |           |             | LATAM              |           |        |        | Eurasia        |        |        |        | Middle East & Africa |         |              |              | Asia |       |           |       |           |         |
|        | CANADA            | USA  | EURO ZONE | AUSTRIA | DENMARK | FRANCE | GERMANY | GREECE | IRELAND | ITALY | NETHERLANDS | SPAIN | SWITZERLAND  | UK   | AUSTRALIA | NEW ZEALAND | JAPAN              | SINGAPORE | BRAZIL | MEXICO | CZECH REPUBLIC | POLAND | RUSSIA | TURKEY | EGYPT                | LEBANON | SAUDI ARABIA | SOUTH AFRICA | UAE  | CHINA | HONG KONG | INDIA | INDONESIA | VIETNAM |
| May-22 | 52.3              | 56.8 | 57.0      | 54.8    | 56.6    | 58.3   | 54.6    | 54.8   | 53.8    | 56.4  | 51.9        | 57.8  | 53.8         | 59.8 | 54.6      | 52.7        | 53.3               | 50.4      | 54.2   | 50.6   | 52.3           | 48.5   | 50.8   | 49.2   | 47.0                 | 48.6    | 55.7         | 54.5         | 55.6 | 48.1  | 54.9      | 54.6  | 50.8      | 54.7    |
| Jun-22 | 52.2              | 54.6 | 52.7      | 52.1    | 51.2    | 69.2   | 51.4    | 52.0   | 51.1    | 53.1  | 50.9        | 55.9  | 52.6         | 59.1 | 52.8      | 50.1        | 52.7               | 50.3      | 54.1   | 52.2   | 49.0           | 44.4   | 50.9   | 48.1   | 45.2                 | 49.1    | 57.0         | 52.0         | 54.8 | 51.7  | 52.4      | 53.9  | 50.2      | 54.0    |
| Jul-22 | 51.1              | 52.5 | 52.2      | 49.8    | 51.7    | 38.1   | 49.5    | 49.3   | 49.1    | 51.8  | 48.5        | 54.5  | 48.7         | 58.0 | 52.1      | 53.0        | 52.1               | 50.1      | 54.0   | 48.5   | 46.8           | 42.1   | 50.3   | 46.9   | 46.4                 | 49.9    | 56.3         | 49.4         | 55.4 | 50.4  | 52.3      | 56.4  | 51.3      | 51.2    |
| Aug-22 | 50.3              | 48.7 | 51.5      | 49.6    | 48.8    | 49.4   | 50.6    | 49.1   | 48.8    | 51.1  | 48.0        | 52.6  | 49.9         | 56.7 | 47.3      | 54.7        | 51.5               | 50.0      | 51.9   | 48.5   | 46.8           | 40.9   | 51.7   | 47.4   | 47.6                 | 50.1    | 57.7         | 51.1         | 56.7 | 49.5  | 51.2      | 56.2  | 51.7      | 52.7    |
| Sep-22 | 49.8              | 49.8 | 52.0      | 48.4    | 48.8    | 49.9   | 47.7    | 47.8   | 49.7    | 51.5  | 48.3        | 49.0  | 49.0         | 56.8 | 48.4      | 51.5        | 50.8               | 49.9      | 51.1   | 50.3   | 44.7           | 43.0   | 52.0   | 46.9   | 47.6                 | 48.8    | 56.6         | 48.2         | 56.1 | 48.1  | 48.0      | 55.1  | 53.7      | 52.5    |
| Oct-22 | 49.4              | 48.8 | 50.4      | 46.4    | 46.6    | 50.7   | 47.2    | 45.1   | 48.1    | 51.4  | 46.5        | 47.9  | 44.7         | 55.4 | 46.2      | 49.0        | 50.7               | 50.8      | 50.3   | 41.7   | 42.0           | 50.7   | 46.4   | 47.7   | 49.1                 | 57.2    | 50.0         | 56.6         | 49.2 | 49.3  | 55.3      | 53.8  | 50.6      |         |
| Nov-22 | 48.8              | 49.6 | 47.7      | 47.1    | 46.6    | 46.7   | 48.3    | 46.2   | 48.4    | 48.7  | 48.4        | 46.0  | 45.7         | 54.4 | 46.5      | 47.4        | 49.0               | 49.8      | 44.3   | 50.6   | 41.6           | 43.4   | 53.2   | 45.7   | 45.4                 | 48.1    | 58.5         | 52.6         | 54.4 | 49.4  | 48.7      | 55.7  | 50.3      | 47.4    |
| Dec-22 | 48.7              | 49.2 | 46.2      | 47.8    | 47.3    | 50.5   | 49.2    | 47.1   | 47.2    | 48.7  | 48.5        | 48.6  | 46.4         | 54.5 | 45.3      | 47.8        | 48.9               | 49.7      | 44.2   | 51.3   | 42.6           | 45.6   | 53.0   | 48.1   | 47.2                 | 47.3    | 56.9         | 53.1         | 54.2 | 49.0  | 49.6      | 57.8  | 50.9      | 46.4    |
| Jan-23 | 49.1              | 51.0 | 46.9      | 48.8    | 48.4    | 54.4   | 50.5    | 47.3   | 49.2    | 50.1  | 50.4        | 49.6  | 48.4         | 49.3 | 47.0      | 50.8        | 48.9               | 49.8      | 47.5   | 48.9   | 44.6           | 47.5   | 52.6   | 50.1   | 45.5                 | 47.7    | 58.2         | 53.0         | 54.1 | 49.2  | 51.2      | 55.4  | 51.3      | 47.4    |
| Feb-23 | 50.0              | 52.4 | 47.3      | 48.5    | 47.1    | 44.1   | 47.4    | 46.3   | 51.7    | 51.3  | 52.0        | 48.7  | 50.7         | 48.9 | 49.3      | 47.7        | 50.0               | 49.2      | 51.0   | 44.3   | 48.5           | 53.6   | 50.1   | 46.9   | 48.8                 | 59.8    | 48.8         | 54.3         | 51.6 | 53.9  | 55.3      | 51.2  | 51.2      |         |

### MANUFACTURING PMI - NEW ORDERS

| WD     | Developed Markets |      |           |         |         |        |         |        |         |       |             |       |              |      |           |             | Emerging countries |           |        |        |                |        |        |        |                      |        |         |              |              |      |       |           |       |           |
|--------|-------------------|------|-----------|---------|---------|--------|---------|--------|---------|-------|-------------|-------|--------------|------|-----------|-------------|--------------------|-----------|--------|--------|----------------|--------|--------|--------|----------------------|--------|---------|--------------|--------------|------|-------|-----------|-------|-----------|
|        | NA                |      | Europe    |         |         |        |         |        |         |       |             |       | Asia-Oceania |      |           |             | LATAM              |           |        |        | Eurasia        |        |        |        | Middle East & Africa |        |         |              | Asia         |      |       |           |       |           |
|        | CANADA            | USA  | EURO ZONE | AUSTRIA | DENMARK | FRANCE | GERMANY | GREECE | IRELAND | ITALY | NETHERLANDS | SPAIN | SWITZERLAND  | UK   | AUSTRALIA | NEW ZEALAND | JAPAN              | SINGAPORE | BRAZIL | MEXICO | CZECH REPUBLIC | POLAND | RUSSIA | TURKEY | EGYPT                | ISRAEL | LEBANON | SAUDI ARABIA | SOUTH AFRICA | UAE  | CHINA | HONG KONG | INDIA | INDONESIA |
| May-22 | 50.9              | 54.7 | 56.1      | 48.7    | 48.1    | 50.6   | 47.0    | 50.2   | 52.0    | 47.4  | 52.6        | 50.0  | 51.1         | 55.0 | 50.4      | 50.5        | 53.3               | 49.6      | 45.4   | 43.2   | 49.3           | 46.8   | 44.6   | 52.1   | 49.8                 | 59.9   | 50.2    | 58.7         | 47.5         | 56.5 | 56.4  | 51.6      | 55.3  |           |
| Jun-22 | 50.1              | 52.8 | 48.7      | 45.2    | 41.2    | 46.1   | 43.3    | 45.7   | 47.9    | 43.9  | 52.5        | 49.7  | 48.3         | 56.7 | 50.2      | 50.7        | 52.9               | 50.7      | 43.9   | 39.1   | 51.0           | 44.9   | 41.9   | 58.5   | 49.3                 | 63.3   | 52.5    | 56.5         | 51.2         | 52.1 | 55.7  | 50.9      | 54.8  |           |
| Jul-22 | 48.9              | 48.9 | 48.6      | 42.6    | 43.6    | 43.0   | 40.1    | 43.5   | 47.0    | 42.5  | 51.1        | 43.5  | 46.9         | 59.9 | 49.2      | 50.2        | 52.4               | 46.2      | 42.6   | 35.6   | 51.8           | 43.6   | 43.1   | 58.1   | 49.6                 | 62.0   | 53.3    | 57.2         | 50.3         | 53.3 | 60.0  | 51.6      | 52.0  |           |
| Aug-22 | 48.2              | 44.5 | 48.8      | 43.3    | 39.8    | 44.8   | 40.9    | 45.6   | 47.3    | 42.6  | 48.7        | 47.3  | 43.9         | 56.8 | 48.2      | 50.1        | 51.4               | 45.1      | 42.2   | 33.4   | 52.9           | 42.8   | 45.1   | 52.7   | 49.8                 | 64.1   | 52.2    | 59.8         | 48.9         | 51.3 | 60.5  | 52.4      | 54.1  |           |
| Sep-22 | 47.7              | 46.9 | 51.1      | 41.3    | 38.6    | 40.4   | 39.1    | 45.8   | 46.1    | 43.2  | 43.0        | 44.4  | 44.8         | 57.8 | 46.3      | 49.9        | 50.3               | 48.0      | 38.5   | 35.4   | 52.4           | 43.0   | 45.9   | 53.4   | 48.8                 | 62.3   | 47.1    | 59.4         | 47.1         | 46.1 | 58.6  | 56.3      | 52.3  |           |
| Oct-22 | 46.9              | 46.0 | 47.6      | 37.9    | 32.9    | 39.4   | 34.5    | 43.1   | 46.5    | 39.2  | 39.7        | 40.3  | 39.9         | 53.8 | 47.9      | 49.6        | 48.3               | 49.8      | 34.1   | 37.7   | 51.1           | 43.5   | 46.4   | 57.9   | 48.4                 | 62.9   | 48.3    | 59.8         | 48.7         | 48.9 | 57.5  | 52.8      | 50.8  |           |
| Nov-22 | 46.7              | 46.8 | 45.2      | 40.7    | 36.9    | 42.2   | 38.3    | 44.9   | 44.7    | 44.1  | 39.1        | 41.2  | 41.9         | 47.8 | 44.6      | 49.7        | 38.9               | 50.2      | 35.6   | 39.8   | 53.0           | 42.7   | 41.4   | 54.5   | 47.8                 | 65.7   | 50.7    | 55.7         | 49.5         | 48.4 | 58.8  | 50.4      | 47.3  |           |
| Dec-22 | 46.4              | 47.0 | 42.7      | 43.1    | 38.4    | 44.9   | 42.1    | 43.3   | 43.2    | 44.4  | 45.8        | 43.2  | 41.4         | 44.4 | 45.3      | 49.5        | 41.1               | 50.9      | 36.7   | 42.8   | 52.3           | 46.8   | 45.5   | 60.6   | 48.1                 | 62.9   | 48.5    | 55.5         | 48.2         | 48.8 | 61.9  | 50.8      | 46.2  |           |
| Jan-23 | 47.7              | 50.3 | 44.1      | 45.6    | 42.1    | 46.5   | 43.5    | 48.4   | 47.9    | 48.3  | 47.3        | 46.1  | 44.4         | 44.4 | 45.7      | 49.7        | 45.2               | 47.6      | 41.9   | 46.9   | 53.6           | 49.4   | 42.6   | 59.4   | 48.8                 | 65.3   | 46.2    | 59.0         | 49.3         | 51.4 | 58.6  | 52.1      | 48.6  |           |
| Feb-23 | 49.3              | 53.3 | 44.3      | 46.3    | 42.3    | 43.0   | 44.0    | 51.4   | 51.0    | 51.1  | 48.5        | 48.7  | 49.6         | 49.6 | 43.9      | 50.0        | 48.8               | 51.1      | 40.3   | 49.1   | 49.1           | 55.1   | 48.6   | 44.7   | 48.9                 | 68.7   | 49.1    | 55.4         | 52.9         | 57.3 | 58.6  | 51.9      | 52.9  |           |



SOURCE: S&P GLOBAL, BNP PARIBAS



BNP PARIBAS

The bank for a changing world





# ECONOMIC PULSE

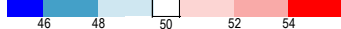
## MANUFACTURING PMI - DELIVERY TIMES

|        | Developed Markets |        |      |           |         |         |        |         |        |              |       |             |       |       | Emerging countries |             |       |           |                      |        |                |        |        |        |       |              |              |      |       |           |       |           |         |
|--------|-------------------|--------|------|-----------|---------|---------|--------|---------|--------|--------------|-------|-------------|-------|-------|--------------------|-------------|-------|-----------|----------------------|--------|----------------|--------|--------|--------|-------|--------------|--------------|------|-------|-----------|-------|-----------|---------|
|        | WD                | NA     |      | Europe    |         |         |        |         |        | Asia-Oceania |       |             |       | LATAM |                    | Eurasia     |       |           | Middle East & Africa |        |                | Asia   |        |        |       |              |              |      |       |           |       |           |         |
|        | World             | CANADA | USA  | EURO ZONE | AUSTRIA | DENMARK | FRANCE | GERMANY | GREECE | IRELAND      | ITALY | NETHERLANDS | SPAIN | UK    | AUSTRALIA          | NEW ZEALAND | JAPAN | SINGAPORE | BRAZIL               | MEXICO | CZECH REPUBLIC | POLAND | RUSSIA | TURKEY | EGYPT | SAUDI ARABIA | SOUTH AFRICA | UAE  | CHINA | HONG KONG | INDIA | INDONESIA | VIETNAM |
| May-22 | 38.8              | 33.3   | 31.1 | 29.9      | 24.2    | 45.0    | 30.0   | 28.2    | 27.0   | 33.3         | 32.6  | 28.4        | 33.7  | 34.1  | 48.0               | 55.0        | 37.1  | 49.8      | 44.1                 | 41.9   | 32.9           | 41.5   | 34.3   | 47.0   | 48.5  | 52.2         | 58.0         | 52.3 | 43.3  | 44.1      | 49.4  | 48.3      | 42.2    |
| Jun-22 | 42.2              | 31.0   | 33.6 | 34.2      | 34.6    | 44.2    | 31.2   | 33.0    | 30.7   | 32.4         | 38.0  | 36.6        | 39.8  | 34.5  | 51.5               | 51.7        | 38.0  | 50.1      | 42.1                 | 38.5   | 37.9           | 43.2   | 40.7   | 46.8   | 46.1  | 54.5         | 63.9         | 51.4 | 50.2  | 44.5      | 50.3  | 50.0      | 45.1    |
| Jul-22 | 42.8              | 33.1   | 33.7 | 37.9      | 38.7    | 49.3    | 32.0   | 38.7    | 33.4   | 36.6         | 40.8  | 38.5        | 40.8  | 37.9  | 47.4               | 50.0        | 39.2  | 50.3      | 41.5                 | 41.9   | 42.4           | 45.7   | 39.0   | 46.2   | 48.7  | 55.0         | 60.2         | 51.0 | 49.1  | 46.9      | 50.2  | 48.9      | 48.5    |
| Aug-22 | 44.8              | 37.6   | 38.9 | 40.2      | 41.4    | 47.1    | 33.1   | 40.9    | 36.1   | 37.7         | 44.5  | 39.8        | 44.9  | 44.5  | 47.1               | 54.0        | 40.0  | 50.4      | 46.6                 | 42.5   | 46.5           | 47.3   | 43.8   | 46.7   | 49.5  | 54.6         | 59.9         | 52.8 | 49.4  | 49.2      | 50.8  | 50.0      | 50.5    |
| Sep-22 | 45.7              | 41.2   | 43.1 | 41.8      | 39.5    | 54.2    | 37.8   | 44.6    | 35.4   | 39.5         | 40.8  | 42.6        | 41.1  | 42.1  | 52.8               | 54.4        | 41.6  | 50.5      | 49.1                 | 42.0   | 47.0           | 47.7   | 45.3   | 46.1   | 49.4  | 50.9         | 61.7         | 51.7 | 48.7  | 49.1      | 49.4  | 49.8      | 50.1    |
| Oct-22 | 46.5              | 44.1   | 44.3 | 43.4      | 41.7    | 58.0    | 38.5   | 47.1    | 36.7   | 38.9         | 42.2  | 42.2        | 43.9  | 43.6  | 48.3               | 55.1        | 43.7  | 50.6      | 49.7                 | 43.8   | 46.4           | 49.3   | 43.5   | 51.2   | 50.2  | 51.4         | 61.9         | 52.1 | 48.8  | 49.0      | 49.6  | 49.1      | 50.4    |
| Nov-22 | 47.3              | 45.0   | 50.5 | 47.5      | 47.4    | 51.9    | 39.9   | 53.1    | 42.6   | 42.3         | 45.7  | 45.3        | 44.8  | 45.3  | 39.2               | 49.7        | 43.8  | 50.4      | 52.2                 | 46.2   | 47.9           | 49.8   | 44.8   | 53.3   | 49.2  | 54.6         | 61.7         | 51.7 | 45.5  | 50.4      | 50.3  | 49.4      | 49.6    |
| Dec-22 | 47.8              | 44.4   | 49.9 | 50.0      | 49.6    | 57.8    | 39.1   | 56.8    | 47.1   | 44.7         | 46.9  | 49.5        | 48.4  | 46.8  | 48.5               | 43.9        | 50.5  | 53.6      | 46.2                 | 47.0   | 48.9           | 45.0   | 53.3   | 49.3   | 51.5  | 65.8         | 50.5         | 46.7 | 50.5  | 50.0      | 49.2  | 49.2      |         |
| Jan-23 | 49.0              | 46.6   | 50.2 | 49.8      | 50.5    | 58.0    | 36.5   | 55.4    | 46.9   | 50.7         | 47.3  | 52.2        | 47.8  | 47.8  | 51.6               | 45.6        | 50.4  | 51.2      | 47.8                 | 49.0   | 48.5           | 47.4   | 49.8   | 48.9   | 52.7  | 57.6         | 51.9         | 49.3 | 51.2  | 50.5      | 49.3  | 50.3      |         |
| Feb-23 | 50.9              | 46.5   | 53.0 | 54.8      | 53.9    | 57.9    | 44.7   | 64.1    | 44.7   | 49.1         | 47.7  | 55.1        | 48.6  | 51.0  | 46.8               | 49.9        | 51.4  | 46.4      | 47.5                 | 50.6   | 45.7           | 44.5   | 48.1   | 54.2   | 55.3  | 55.0         | 51.2         | 55.2 | 50.0  | 50.8      | 50.7  |           |         |



## SERVICES PMI

|        | World | USA  | EURO ZONE | FRANCE | GERMANY | IRELAND | ITALY | SPAIN | UK   | AUSTRALIA | JAPAN | BRAZIL | RUSSIA | LEBANON | CHINA | HONG KONG | INDIA |
|--------|-------|------|-----------|--------|---------|---------|-------|-------|------|-----------|-------|--------|--------|---------|-------|-----------|-------|
| May-22 | 51.9  | 53.4 | 56.1      | 58.3   | 55.0    | 60.2    | 53.7  | 56.5  | 53.4 | 49.2      | 52.6  | 58.6   | 48.5   | 48.6    | 41.4  | 54.9      | 58.9  |
| Jun-22 | 53.9  | 52.7 | 53.0      | 53.9   | 52.4    | 55.6    | 51.6  | 54.0  | 54.3 | 48.8      | 54.0  | 60.8   | 51.7   | 49.1    | 54.5  | 52.4      | 59.2  |
| Jul-22 | 51.1  | 47.3 | 51.2      | 53.2   | 49.7    | 56.3    | 48.4  | 53.8  | 52.6 | 51.7      | 50.3  | 55.8   | 54.7   | 49.9    | 55.5  | 52.3      | 55.5  |
| Aug-22 | 49.2  | 43.7 | 49.8      | 51.2   | 47.7    | 54.7    | 50.5  | 50.6  | 50.9 | 53.3      | 49.5  | 53.9   | 49.9   | 50.1    | 55.0  | 51.2      | 57.2  |
| Sep-22 | 50.0  | 49.3 | 48.8      | 52.9   | 45.0    | 54.1    | 48.8  | 48.5  | 50.0 | 48.0      | 52.2  | 51.9   | 51.1   | 48.8    | 49.3  | 48.0      | 54.3  |
| Oct-22 | 49.2  | 47.8 | 48.6      | 51.7   | 46.5    | 53.2    | 46.4  | 49.7  | 48.8 | 47.7      | 53.2  | 54.0   | 43.7   | 49.1    | 48.4  | 49.3      | 55.1  |
| Nov-22 | 48.0  | 46.2 | 48.5      | 49.3   | 46.1    | 50.8    | 49.5  | 51.2  | 48.8 | 45.6      | 50.3  | 51.6   | 48.3   | 48.1    | 46.7  | 48.7      | 56.4  |
| Dec-22 | 48.0  | 44.7 | 49.8      | 49.5   | 49.2    | 52.7    | 49.9  | 51.6  | 49.9 | 51.1      | 51.0  | 45.9   | 47.3   | 48.0    | 49.6  | 58.5      |       |
| Jan-23 | 50.0  | 46.8 | 50.8      | 49.4   | 50.7    | 54.1    | 51.2  | 52.7  | 48.7 | 52.3      | 50.7  | 48.7   | 47.7   | 52.9    | 51.2  | 57.2      |       |
| Feb-23 | 52.6  | 50.6 | 52.7      | 53.1   | 50.9    | 58.2    | 51.6  | 56.7  | 53.5 | 54.0      | 49.8  | 53.1   | 48.8   | 55.0    | 53.9  | 59.4      |       |



SOURCE: S&P GLOBAL, BNP PARIBAS



BNP PARIBAS

The bank for a changing world

# ECONOMIC SCENARIO

10

## UNITED STATES

The U.S. economy continued to grow in Q4, although it slowed slightly compared to Q3. However, the main drivers of growth, namely household consumption and private inventories, are fragile, suggesting that the economy should continue to slow. The labour market is still very tight, with job creation remaining high, the unemployment rate low and wage growth buoyant. Inflation seems to have peaked in the middle of 2022, but disinflation remains gradual and the inflation rate should remain significantly above the target of 2% by the end of 2023. As a consequence, the Fed should continue to increase its policy rate towards 5.50-5.75% in Q3. It is likely to drive the US economy into recession and limit the recovery in 2024.

## CHINA

Economic growth, which was sluggish and unbalanced in 2022, is projected to strengthen 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, and household consumption will continue to benefit from large catch-up effects in the short term. However, while export and industrial production prospects are darkened by the weakening in global demand, activity driven by the domestic market remains constrained by important drags. In fact, the recovery in the labour market remains uncertain, the improvement in the property and construction sectors is likely to be limited, and the worrying financial situation of local governments should constrain public investment. Fiscal and monetary support is expected to be prudent. Consumer price inflation, which averaged 2% in 2022, should accelerate only mildly in 2023.

## EUROZONE

Economic growth in the eurozone was zero in the fourth quarter of 2022, but better than expected for 2022 as a whole, at 3.5%. The combination of the inflationary shock, the energy crisis and forced monetary tightening and the build-up of their negative effects will weaken activity in 2023. Nonetheless, the improvement in the survey data (business climate and consumer confidence) in the first two months of 2023 suggests that the monetary union will escape a recession this winter. Real GDP growth should be weak but positive in 2023 and 2024, at 0.8% and 0.7% respectively, with more homogeneous activity growth between countries. Although it is expected to decline throughout 2023, inflation will remain elevated and well above the 2% target at the end of the year and back on target only at the end of 2024, forcing monetary policy to remain in restrictive territory.

## FRANCE

Real GDP growth has decreased in H2 2022 (0.2% q/q in Q3 and 0.1% in Q4, after +0.5% in Q2). Corporate investment and inventory rebuilding have remained the main growth drivers, whereas household demand has played on the downside: household consumption has decreased by 1.2% q/q in Q4 and their investment by 0.9%. As inflation has reached a new peak in February 2023 (7.2% y/y 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 2.6% in 2022).

## RATES AND EXCHANGE RATES

In the US, the Federal Reserve will continue its tightening policy, bringing the federal funds rate to its terminal rate for this cycle at 5.75% (upper end of the target range) in July of this year. Given the expected slow decline in inflation and despite the economy entering recession, this level should be maintained through 2023 and only be followed by rate cuts in 2024. US Treasuries are largely pricing in the upcoming rate hikes. In the near-term there is still some upward potential, but subsequently yields should move lower as the inflation outlook improves and the market starts anticipating policy easing in 2024.

The ECB Governing Council will continue to raise its policy rates at its next meetings. We expect the terminal rate -i.e. the peak rate in this cycle- to be reached during the summer. We expect a peak for the deposit rate at 4%. We expect quantitative tightening to start in the second quarter of 2023. In the near term, we expect higher government

bond yields as the ECB continues to tighten but thereafter yields should move lower, driven by a gradual decline in inflation. Lower US yields should also play a role in the decline of Eurozone yields.

The Bank of Japan has increased the upper end of its target range for the 10-year JGB yield to 0.5% and further adjustments to the yield curve control policy cannot be excluded. Nevertheless, we do not expect the BoJ to proceed with a rate hike.

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  | 5.7        | 2.1  | 1.5    | 0.0    | 4.7       | 8.0  | 4.4    | 2.6    |
| Japan          | 1.7        | 1.1  | 1.2    | 0.8    | -0.2      | 2.5  | 2.7    | 1.5    |
| United-Kingdom | 7.4        | 4.0  | -0.4   | 1.0    | 2.6       | 9.1  | 6.0    | 2.0    |
| Euro Area      | 5.3        | 3.5  | 0.7    | 0.8    | 2.6       | 8.4  | 5.2    | 2.6    |
| Germany        | 2.6        | 1.9  | 0.1    | 0.8    | 3.2       | 8.6  | 5.4    | 2.1    |
| France         | 6.8        | 2.6  | 0.5    | 0.9    | 2.1       | 5.9  | 5.7    | 3.0    |
| Italy          | 6.6        | 3.8  | 0.9    | 0.9    | 1.9       | 8.7  | 6.7    | 2.3    |
| Spain          | 5.1        | 5.5  | 1.4    | 1.1    | 3.0       | 8.3  | 3.5    | 2.1    |
| China          | 8.1        | 3.0  | 5.6    | 5.3    | 0.9       | 2.0  | 2.7    | 2.5    |
| India*         | 8.7        | 6.9  | 6.1    | 6.3    | 5.5       | 6.7  | 5.5    | 4.4    |
| Brazil         | 4.6        | 3.0  | 0.5    | 1.3    | 8.3       | 9.4  | 5.4    | 4.9    |

SOURCE: BNP PARIBAS GROUP ECONOMIC RESEARCH (E: ESTIMATES & FORECASTS)  
\*FISCAL YEAR FROM 1<sup>ST</sup> APRIL OF YEAR N TO MARCH 31<sup>ST</sup> OF YEAR N+1

### INTEREST AND EXCHANGE RATES

#### Interest rates, %

| End of period |                         | Q2 2023 | Q3 2023 | Q4 2023 | Q4 2024 |
|---------------|-------------------------|---------|---------|---------|---------|
| US            | Fed Funds (upper limit) | 5.50    | 5.75    | 5.75    | 4.00    |
|               | T-Note 10y              | 4.30    | 4.10    | 3.90    | 3.65    |
| Eurozone      | deposit rate            | 3.75    | 4.00    | 4.00    | 2.75    |
|               | Bund 10y                | 3.10    | 2.90    | 2.50    | 2.00    |
|               | OAT 10y                 | 3.65    | 3.45    | 3.02    | 2.50    |
|               | BTP 10y                 | 5.10    | 5.15    | 4.75    | 3.80    |
| UK            | BONO 10y                | 4.10    | 4.00    | 3.60    | 2.90    |
|               | Base rate               | 4.25    | 4.25    | 4.25    | 3.50    |
| Japan         | Gilts 10y               | 3.70    | 3.50    | 3.25    | 2.85    |
|               | BoJ Rate                | -0.10   | -0.10   | -0.10   | 0.10    |
|               | JGB 10y                 | 0.95    | 0.95    | 0.90    | 0.95    |

#### Exchange Rates

| End of period |           | Q2 2023 | Q3 2023 | Q4 2023 | Q4 2024 |
|---------------|-----------|---------|---------|---------|---------|
| USD           | EUR / USD | 1.10    | 1.12    | 1.14    | 1.18    |
|               | USD / JPY | 133     | 130     | 127     | 121     |
|               | GBP / USD | 1.24    | 1.26    | 1.28    | 1.33    |
| EUR           | EUR / GBP | 0.89    | 0.89    | 0.89    | 0.89    |
|               | EUR / JPY | 146     | 146     | 145     | 143     |

#### Brent

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

\* SPOT AT 03/03/2023

SOURCES: BNP PARIBAS (E: ESTIMATES & FORECASTS) (MARKET ECONOMICS, INTEREST RATE STRATEGY, FX STRATEGY, COMMODITIES DESK STRATEGY)



**BNP PARIBAS**

The bank  
for a changing  
world

# FURTHER READING

11

|   |                     |                  |
|---|---------------------|------------------|
| <a href="#">What drives market short-termism?</a>   | EcoTVWeek           | 9 March 2023     |
| <a href="#">Gulf countries and the challenge of the energy transition</a>                               | EcoConjoncture      | 9 March 2023     |
| <a href="#">Recent trends and short-term outlook in emerging countries</a>                              | Special edition     | 8 March 2023     |
| <a href="#">South Africa: the government still plans to hit optimistic fiscal consolidation targets</a> | Chart of the Week   | 8 March 2023     |
| <a href="#">Eurozone: the headache of slow disinflation</a>   | EcoWeek             | 6 March 2023     |
| <a href="#">Inflation tracker - March 2023</a>  | EcoChart            | 3 March 2023     |
| <a href="#">French foreign trade: hindered by deterioration in three areas</a>                          | EcoFlash            | 3 March 2023     |
| <a href="#">The European Emissions Trading System is powering up</a>                                    | EcoTVWeek           | 3 March 2023     |
| <a href="#">European carbon price at an all-time high</a>   | Chart of the Week   | 1 March 2023     |
| <a href="#">The link between global growth and international trade</a>                                  | Podcast-Macro Waves | 27 February 2023 |
| <a href="#">Eurozone: Monetary policy's long and variable lags: the case of the Eurozone</a>            | EcoWeek             | 27 February 2023 |
| <a href="#">OECD: EcoPulse February 2023</a>  | EcoPulse            | 24 February 2023 |
| <a href="#">Southern Europe: improvement in public accounts</a>   | EcoTVWeek           | 24 February 2023 |
| <a href="#">The business climate continues to improve in February 2023, but inflation persists</a>      | EcoBrief            | 22 February 2023 |
| <a href="#">European Union: sectoral variations in business bankruptcies</a>                            | Chart of the Week   | 22 February 2023 |
| <a href="#">US: "It ain't over till it's over"</a>  | EcoWeek             | 20 February 2023 |
| <a href="#">Political turmoil in Peru</a>   | EcoTVWeek           | 17 February 2023 |
| <a href="#">Disinflation: it is a matter of scale</a>   | Chart of the Week   | 15 February 2023 |
| <a href="#">United States: Do a high vacancy rate and labour hoarding imply slow disinflation?</a>      | EcoWeek             | 13 February 2023 |
| <a href="#">Productivity, an endemic weakness of the Spanish economic model</a>                         | Conjoncture         | 10 February 2023 |
| <a href="#">Slowdown in the labour market and recession</a>   | EcoFlash            | 10 February 2023 |



# GROUP ECONOMIC RESEARCH

William De Vijlder  
Chief Economist

+33 1 55 77 47 31

william.devijlder@bnpparibas.com

## OECD ECONOMIES AND STATISTICS

Hélène Baudchon  
Head - Eurozone, United States

+33 1 58 16 03 63

helene.baudchon@bnpparibas.com

Stéphane Colliac  
France, Germany

+33 1 42 98 43 86

stephane.colliac@bnpparibas.com

Guillaume Derrien  
Southern Europe, Japan, United Kingdom - International trade

+33 1 55 77 71 89

guillaume.a.derrien@bnpparibas.com

Veary Bou, Tarik Rharrab  
Statistics

## ECONOMIC PROJECTIONS, RELATIONSHIP WITH THE FRENCH NETWORK

Jean-Luc Proutat  
Head

+33 1 58 16 73 32

jean-luc.proutat@bnpparibas.com

## BANKING ECONOMICS

Laurent Quignon  
Head

+33 1 42 98 56 54

laurent.quignon@bnpparibas.com

Céline Choulet

+33 1 43 16 95 54

celine.choulet@bnpparibas.com

Thomas Humblot

+33 1 40 14 30 77

thomas.humblot@bnpparibas.com

Marianne Mueller

+33 1 40 14 48 11

marianne.mueller@bnpparibas.com

## EMERGING ECONOMIES AND COUNTRY RISK

François Faure  
Head - Argentina, Turkey - Methodology, Modelling

+33 1 42 98 79 82

francois.faure@bnpparibas.com

Christine Peltier  
Deputy Head - Greater China, Vietnam - Methodology

+33 1 42 98 56 27

christine.peltier@bnpparibas.com

Stéphane Alby  
Africa (French-speaking countries)

+33 1 42 98 02 04

stephane.alby@bnpparibas.com

Pascal Devaux  
Middle East, Balkan countries

+33 1 43 16 95 51

pascal.devaux@bnpparibas.com

Hélène Drouot  
South Korea, Philippines, Thailand, Andean countries

+33 1 42 98 33 00

helene.drouot@bnpparibas.com

Salim Hammad  
Latin America

+33 1 42 98 74 26

salim.hammad@bnpparibas.com

Cynthia Kalasopatan Antoine  
Ukraine, Central European countries

+33 1 53 31 59 32

cynthia.kalasopatan.antoine@bnpparibas.com

Johanna Melka  
India, South Asia, Russia, Kazakhstan

+33 1 58 16 05 84

johanna.melka@bnpparibas.com

Lucas Plé  
Africa (Portuguese & English-speaking countries)

lucas.ple@bnpparibas.com

## CONTACT MEDIA

Mickaëlle Fils Marie-Luce

+33 1 42 98 48 59

mickaelle.filsmarie-luce@bnpparibas.com



**BNP PARIBAS**

**The bank  
for a changing  
world**

# GROUP ECONOMIC RESEARCH

## ECOCONJONCTURE

Structural or thematic topics.

## ECOEEMERGING

Analyses and forecasts for a selection of emerging economies.

## ECOPERSPECTIVES

Analyses and forecasts with a focus on developed countries.

## ECOFLASH

Data releases, major economic events.

## ECOWEEK

Recent economic and policy developments, data comments, economic calendar, forecasts.

## ECOTV WEEK

A weekly video discussing the main event of the week.

## MACROWAVES

Our economic podcast.

The information and opinions contained in this report have been obtained from, or are based on, public sources believed to be reliable, but no representation or warranty, express or implied, is made that such information is accurate, complete or up to date and it should not be relied upon as such. This report does not constitute an offer or solicitation to buy or sell any securities or other investment. It does not constitute investment advice, nor financial research or analysis. Information and opinions contained in the report are not to be relied upon as authoritative or taken in substitution for the exercise of judgement by any recipient; they are subject to change without notice and not intended to provide the sole basis of any evaluation of the instruments discussed herein. Any reference to past performance should not be taken as an indication of future performance. To the fullest extent permitted by law, no BNP Paribas group company accepts any liability whatsoever (including in negligence) for any direct or consequential loss arising from any use of or reliance on material contained in this report. All estimates and opinions included in this report are made as of the date of this report. Unless otherwise indicated in this report there is no intention to update this report. BNP Paribas SA and its affiliates (collectively "BNP Paribas") may make a market in, or may, as principal or agent, buy or sell securities of any issuer or person mentioned in this report or derivatives thereon. BNP Paribas may have a financial interest in any issuer or person mentioned in this report, including a long or short position in their securities and/or options, futures or other derivative instruments based thereon. Prices, yields and other similar information included in this report are included for information purposes. Numerous factors will affect market pricing and there is no certainty that transactions could be executed at these prices. BNP Paribas, including its officers and employees may serve or have served as an officer, director or in an advisory capacity for any person mentioned in this report. BNP Paribas may, from time to time, solicit, perform or have performed investment banking, underwriting or other services (including acting as adviser, manager, underwriter or lender) within the last 12 months for any person referred to in this report. BNP Paribas may be a party to an agreement with any person relating to the production of this report. BNP Paribas, may to the extent permitted by law, have acted upon or used the information contained herein, or the research or analysis on which it was based, before its publication. BNP Paribas may receive or intend to seek compensation for investment banking services in the next three months from or in relation to any person mentioned in this report. Any person mentioned in this report may have been provided with sections of this report prior to its publication in order to verify its factual accuracy.

BNP Paribas is incorporated in France with limited liability. Registered Office 16 Boulevard des Italiens, 75009 Paris. This report was produced by a BNP Paribas group company. This report is for the use of intended recipients and may not be reproduced (in whole or in part) or delivered or transmitted to any other person without the prior written consent of BNP Paribas. By accepting this document you agree to be bound by the foregoing limitations.

Certain countries within the European Economic Area:

This report has been approved for publication in the United Kingdom by BNP Paribas London Branch. BNP Paribas London Branch is authorised and supervised by the Autorité de Contrôle Prudentiel and authorised and subject to limited regulation by the Financial Services Authority. Details of the extent of our authorisation and regulation by the Financial Services Authority are available from us on request.

This report has been approved for publication in France by BNP Paribas SA. BNP Paribas SA is incorporated in France with Limited Liability and is authorised by the Autorité de Contrôle Prudentiel (ACP) and regulated by the Autorité des Marchés Financiers (AMF). Its head office is 16, boulevard des Italiens 75009 Paris, France.

This report is being distributed in Germany either by BNP Paribas London Branch or by BNP Paribas Niederlassung Frankfurt am Main, a branch of BNP Paribas S.A. whose head office is in Paris, France. BNP Paribas S.A. – Niederlassung Frankfurt am Main, Europa Allee 12, 60327 Frankfurt is authorised and supervised by the Autorité de Contrôle Prudentiel and it is authorised and subject to limited regulation by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin).

United States: This report is being distributed to US persons by BNP Paribas Securities Corp., or by a subsidiary or affiliate of BNP Paribas that is not registered as a US broker-dealer. BNP Paribas Securities Corp., a subsidiary of BNP Paribas, is a broker-dealer registered with the U.S. Securities and Exchange Commission and a member of the Financial Industry Regulatory Authority and other principal exchanges. BNP Paribas Securities Corp. accepts responsibility for the content of a report prepared by another non-U.S. affiliate only when distributed to U.S. persons by BNP Paribas Securities Corp.

Japan: This report is being distributed in Japan by BNP Paribas Securities (Japan) Limited or by a subsidiary or affiliate of BNP Paribas not registered as a financial instruments firm in Japan, to certain financial institutions defined by article 17-3, item 1 of the Financial Instruments and Exchange Law Enforcement Order. BNP Paribas Securities (Japan) Limited is a financial instruments firm registered according to the Financial Instruments and Exchange Law of Japan and a member of the Japan Securities Dealers Association and the Financial Futures Association of Japan. BNP Paribas Securities (Japan) Limited accepts responsibility for the content of a report prepared by another non-Japan affiliate only when distributed to Japanese based firms by BNP Paribas Securities (Japan) Limited. Some of the foreign securities stated on this report are not disclosed according to the Financial Instruments and Exchange Law of Japan.

Hong Kong: This report is being distributed in Hong Kong by BNP Paribas Hong Kong Branch, a branch of BNP Paribas whose head office is in Paris, France. BNP Paribas Hong Kong Branch is registered as a Licensed Bank under the Banking Ordinance and regulated by the Hong Kong Monetary Authority. BNP Paribas Hong Kong Branch is also a Registered Institution regulated by the Securities and Futures Commission for the conduct of Regulated Activity Types 1, 4 and 6 under the Securities and Futures Ordinance.

Some or all the information reported in this document may already have been published on <https://globalmarkets.bnpparibas.com>

© BNP Paribas (2015). All rights reserved.

HOW TO RECEIVE OUR PUBLICATIONS

**SUBSCRIBE ON OUR WEBSITE**  
see the [Economic Research website](#)

&

**FOLLOW US ON LINKEDIN**  
see the [Economic Research linkedin page](#)

**OR TWITTER**  
see the [Economic Research Twitter page](#)



Published by BNP PARIBAS Economic Research

Head office: 16 boulevard des Italiens – 75009 Paris France / Phone : +33 (0) 1.42.98.12.34

Internet: [www.group.bnpparibas.com](http://www.group.bnpparibas.com) - [www.economic-research.bnpparibas.com](http://www.economic-research.bnpparibas.com)

Head of publication : Jean Lemierre / Chief editor: William De Vijlder

Copyright: Shutterstock/Akira Kaelin



**BNP PARIBAS**

The bank  
for a changing  
world