

## UNITED STATES: JOB CREATION AND THE UNEMPLOYMENT RATE

The state of the labour market occupies a central role in the analysis of the business cycle. Historically, the percentage of months over the past 12 months with nonfarm payrolls below the 200K threshold increases in the run-up to a recession. Today, this indicator stands at 0 percent. Although there have been many false signals, a significant increase in this percentage calls for vigilance, necessitating closer monitoring of other data as well to assess the risk of recession. An alternative approach consists of making the link between monthly payrolls and the unemployment rate. However, given the latest data on job creations, a swift increase in the unemployment rate sufficient to trigger a recession signal seems unlikely. This means that the slowdown of wage growth and, more broadly, the decline of core inflation, might take more time than expected, forcing the Federal Reserve to keep policy rates high for longer. This is not exactly what is being priced by financial markets.

The state of the labour market occupies a central role in the analysis of the business cycle because it reflects the state of health of firms -are they creating jobs or shedding labour?- and it drives household income and confidence. It is even more closely scrutinized around cyclical turnarounds.

In the US, of the six indicators that the NBER business cycle dating committee uses to determine cyclical peak and trough dates, two relate to the labour market: nonfarm payroll employment and employment as measured by the household survey<sup>1</sup>. According to the Sahm rule, the US economy enters a recession when the three-month moving average of the national unemployment rate (U3) rises by 0.50 percentage points or more relative to its low during the previous 12 months<sup>2</sup>.

As shown by chart 1, the recent evolution of this indicator causes concern -it has increased- but also brings some relief because we are still below the critical threshold. These different indicators imply that in coming months, the pace of job creation will be particularly important in the assessment of the recession risk, either directly -in the NBER's set of indicators- or indirectly, through the influence on the unemployment rate.

Establishing a link between the monthly nonfarm payrolls and the likelihood of entering recession is not straightforward. In what follows, two approaches will be discussed. The first one looks at the frequency of low job creation numbers, based on the rationale that one bad number could be considered as a one-off, whereas several low numbers could fuel recession fears.

Chart 2 shows the percentage of months over the past 12 months with nonfarm payrolls below the 200.000 threshold<sup>3</sup>. Historically, this percentage has increased in the run-up to a recession but there have also been false signals, whereby a significant increase in the indicator was not followed by a recession. This was, amongst others, the case in 1986, 1996, 2013 and 2018.

Table 1 focuses specifically on the 12 months in the run-up to a recession and shows a great diversity across cycles. The recession that started in November 1973 was preceded by a low percentage of payrolls below 200K. The one starting in December 2007 already had a high percentage of job creations below 200K 12 months earlier. For the current situation -no payrolls below 200K in the past 12 months-, the months leading to the January 1980 and March 2001 recessions should be kept in mind: starting from a very low level, the percentage of below 200K job creations increased steadily and eventually the economy entered a recession.

<sup>1</sup> The other indicators are: real personal income less transfers, real personal consumption expenditures, wholesale-retail sales adjusted for price changes, industrial production. Source: NBER.

<sup>2</sup> Source: FRED, Federal Reserve of St Louis.

<sup>3</sup> This threshold was chosen because it is close to the December number (223K jobs were created outside the agricultural sector). Charts with lower thresholds are available from the author upon request.

### US : REAL-TIME SAHM RULE RECESSION INDICATOR

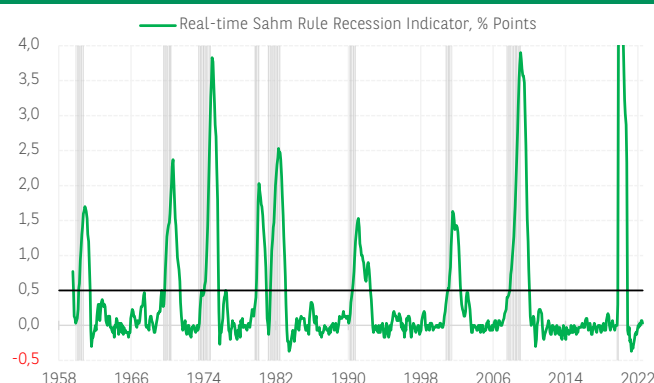


CHART 1

SOURCE: FEDERAL RESERVE BANK OF ST. LOUIS, NBER, BNP PARIBAS

### US: PERCENTAGE OF MONTHS (OVER THE PAST 12 MONTHS) WITH NONFARM PAYROLLS BELOW 200K

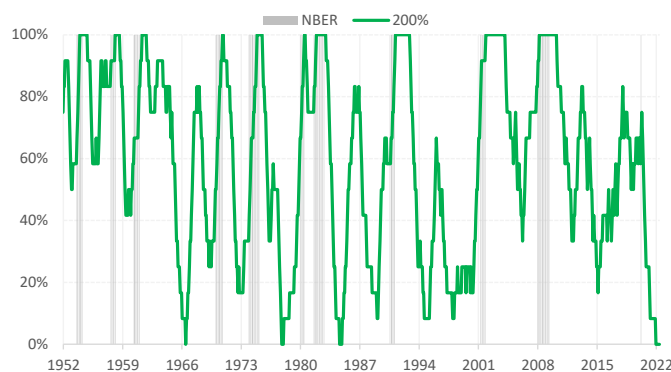


CHART 2

SOURCE: REFINITIV, BLS, NBER, BNP PARIBAS

To conclude on this point, given the diversity of situations seen in the past, this indicator should be used with caution. However, a significant increase in its value calls for vigilance, necessitating closer monitoring of other data as well to assess the risk of recession.



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An alternative approach consists of making the link between monthly payrolls and the unemployment rate, the idea being that a lasting increase of the latter would, based on the Sahm rule, signal a recession.

Table 2 shows the employment status of the US civilian population of working age. According to US Census data, the civilian noninstitutional population<sup>4</sup> is expected to increase 0.51 % between December 2022 and December 2023<sup>5</sup>. Assuming a constant labour force participation rate of 62.3%, this would imply a labour force of 165,812 million (table 3). An increase of the unemployment rate with 0.5 percentage points to 4.0% by December 2023, would correspond to an employment level of 159,180 million, i.e. a decrease of 63 thousand jobs compared with December 2022.

One should keep in mind that the employment level that is used to calculate the unemployment rate is based on the household survey, whereas the nonfarm payrolls report is based on a different survey, the establishment survey<sup>6</sup>.

The monthly changes in the two employment series are highly correlated, although in the short run there may be large differences. Based on a linear regression, a decrease of 63 thousand jobs in the household survey is expected to correspond to a decrease in the level of nonfarm payrolls with 21 thousand.

This analysis leads to two important conclusions. One, given the latest data on job creations -223 thousand new jobs in December-, a swift increase in the unemployment rate sufficient to trigger a recession signal based on the Sahm rule seems unlikely. It would require a significant slowdown in activity with a very negative impact on monthly payroll numbers<sup>7</sup>. Two, in the absence of a recession, a slowdown of wage growth and, more broadly, a decline of core inflation, might take more time than expected, forcing the Federal Reserve to keep policy rates high for longer. This is not exactly what is being priced by financial markets.

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<sup>4</sup> Civilian noninstitutional population: Persons 16 years of age and older residing in the 50 states and the District of Columbia, who are not inmates of institutions (e.g., penal and mental facilities, homes for the aged), and who are not on active duty in the Armed Forces (source: US Department of Labor).

<sup>5</sup> Source : Monthly Population Estimates for the United States: April 1, 2020 to December 1, 2023 (NA-EST2022-POP) (source: U.S. Census Bureau).

<sup>6</sup> The household survey is based on a sample of about 60,000 households conducted by the US Census Bureau. It collects information on the labour force, employment, and unemployment. The establishment survey provides information on employment, hours, and earnings of employees on nonfarm payrolls. It is based on a sample of about 131,000 businesses and government agencies. Source: US Bureau of Labor Statistics, Employment situation technical note.

<sup>7</sup> Considering that an unemployment rate of 3.5% would correspond to a reduction of the level of nonfarm payrolls of 21K, any positive change in monthly payrolls would need to be compensated by negative numbers at a later stage.

### US: PERCENTAGE OF MONTHS (OVER THE PAST 12 MONTHS) WITH NONFARM PAYROLLS BELOW 200K

Month before start of recession (= month 0)	START OF RECESSION										
	July 1953	Aug. 1957	April 1960	Dec. 1969	Nov. 1973	Jan. 1980	July 1981	July 1990	Mar. 2001	Dec. 2007	Feb. 2020
-12	92%	83%	50%	33%	17%	17%	100%	50%	17%	67%	58%
-11	83%	83%	42%	33%	17%	17%	92%	50%	17%	67%	58%
-10	75%	83%	42%	33%	17%	17%	92%	50%	17%	75%	50%
-9	67%	83%	42%	25%	17%	25%	83%	58%	25%	75%	58%
-8	58%	92%	42%	33%	17%	25%	75%	58%	33%	75%	58%
-7	50%	92%	50%	25%	25%	25%	75%	67%	33%	75%	58%
-6	50%	83%	50%	25%	33%	33%	75%	67%	42%	75%	67%
-5	58%	83%	50%	33%	33%	42%	75%	67%	50%	75%	67%
-4	58%	83%	42%	33%	33%	42%	75%	58%	50%	75%	67%
-3	58%	83%	50%	33%	33%	50%	75%	58%	58%	75%	58%
-2	58%	83%	50%	33%	33%	58%	75%	58%	67%	75%	67%
-1	58%	83%	58%	42%	33%	67%	75%	58%	67%	83%	67%
0	58%	92%	58%	50%	33%	67%	75%	58%	75%	83%	58%

TABLE 1

SOURCE: REFINITIV, BLS, NBER, BNP PARIBAS

### US CIVILIAN POPULATION: EMPLOYMENT STATUS

Numbers in thousands		December 2022
Civilian non institutional population	a	264844
Civilian labor force	b	164966
Participation rate	c=b/a	62,3%
Employed	d	159244
Unemployed	e	5722
Unemployment rate	f=e/b	3,5%

TABLE 2

SOURCE: US BUREAU OF LABOR STATISTICS

### US: SIMULATION OF EMPLOYMENT LEVEL FOR A GIVEN INCREASE IN THE UNEMPLOYMENT RATE

Numbers in thousands		December 2023	Source
Civilian non institutional population	a	266.204	US Census
Civilian labor force	b	165.813	b=c*a
Participation rate	c	62.3%	assumption
Employed	d	159.180	d=b-e
Unemployed	e	6.633	e=f*b
Unemployment rate	f	4%	assumption

TABLE 3

SOURCE: BNP PARIBAS CALCULATIONS



**BNP PARIBAS**

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