Methodology note: margins of error on the long-search comparisons

October 2026 White Collar Employment Report. Reproducible with `scripts/employment-report/gvf-long-search-margins.py`.

Validation against BLS

As a check on the CPS pipeline, we computed all-worker figures from the microdata and compared them with BLS-published, not seasonally adjusted series for the same months (BLS series LNU01000000, LNU03000000, LNU03008636; ratio of January to September sums).

Measure	Period	This pipeline	BLS	Difference
Unemployment rate (%)	Jan-Sep 2026	4.32	4.32	0.00
Unemployment rate (%)	Jan-Sep 2025	4.30	4.30	0.00
Share of unemployed out 27+ weeks (%)	Jan-Sep 2026	25.8	25.9	-0.1
Share of unemployed out 27+ weeks (%)	Jan-Sep 2025	22.7	22.6	+0.1
Unemployed 27+ weeks (thousands, monthly average)	Jan-Sep 2026	1,900	1,900	0
Unemployed 27+ weeks (thousands, monthly average)	Jan-Sep 2025	1,663	1,659	+4

The white-collar, knowledge-worker and other cuts use the same code and weights; BLS does not publish them, so they cannot be checked this way.

What is being compared

For each group, the share of unemployed people who have been unemployed 27 weeks or more (spells in progress), pooled over January to September 2026 and compared with the same months of 2025. Weights are the CPS composite weights. Not seasonally adjusted. The counts of

records behind each group are unweighted person-month observations: the CPS follows households for several months, so one person can appear more than once.

How the nine months are pooled

The share is a ratio of weighted sums, not an average of monthly percentages: the numerator is the sum, over January to September, of the weighted count of unemployed people out 27 weeks or more; the denominator is the sum of the weighted count of all unemployed people. The same is done for 2025. Weights are the CPS composite weights (PWCMPWGT); durations are top-coded at 119 weeks and are spells in progress.

Method 1 (primary): BLS generalized variance functions

Parameters are from BLS's published "Parameters and factors for calculating standard errors for estimates from the Current Population Survey", table PF-12, percent distribution, "27 weeks and over": alpha = 3790.63896835, beta = -1.4058504e-05. Factors: quarterly averages 0.7244570082; yearly averages 0.4135866746; change in consecutive yearly averages 0.5546751680.

1. Base y = the group's average monthly number of unemployed people (persons), estimated from the weighted data.
2. Standard error of the percentage p (0 to 100) for a single month: se = sqrt(((alpha + beta x y) / y) x p x (100 - p)).
3. Factor for a nine-month average: linear interpolation between the three-month and twelve-month factors, f9 = fq + (fy - fq) x (9 - 3) / (12 - 3) = 0.5172.
4. Factor for the year-over-year change of nine-month averages: f9 x (change-in-yearly factor / yearly factor) = 0.5172 x 1.3411 = 0.6936.
5. Standard error of the change = 0.6936 x se; 90% margin of error = 1.645 x that.

How overlap between months and years is handled: BLS builds the published factors for averages and for changes from the CPS rotation design, which includes the repeated observation of households across consecutive months and in the same month a year apart. We apply BLS's published ratio instead of estimating covariances ourselves. We do not recompute those covariances from the public microdata, because Census does not release replicate weights for the public monthly files.

Limits: the nine-month factor is an interpolation, not a published value; and for subgroups (knowledge workers, white-collar without a bachelor's, ages 55 to 64, blue-collar) we use the parameters for all unemployed people, because BLS does not publish parameters for those cuts. That can understate variance for small groups. Check: the same method reproduces the September edition's published margins (white-collar 27+ weeks, +5.3 points: plus or minus 2.3 here for January to September against 2.4 for January to August; ages 55 to 64: 6.1 against 6.3).

Worked example: white-collar workers, 27+ week share

Inputs: average monthly white-collar unemployed y = 1,933,000 persons; p = 28.5%. - Single-month standard error: sqrt(((3790.639 + (-1.4058504e-05 x 1,933,000)) / 1,933,000) x 28.5 x 71.5) = 1.992 points. - Factor for the change in nine-month averages: 0.6936 (see step 4). -

Standard error of the change: 0.6936 x 1.992 = 1.382; 90% margin: 1.645 x 1.382 = plus or minus 2.3 points. The observed change is +5.3 points.

Method 2 (conservative check)

This is a sensitivity test, not a validated design-based estimate. The rule of thumb (design effect 2.0; pooled months counted as 40% independent, so eight months count as 3.2) was adopted in the September edition's first versions and has not been validated against replicate-weight estimates, which Census does not release for the public monthly files. Treat the two years as independent samples of unemployed person-month observations, apply a design effect of 2.0, and count the pooled months as 40% independent. Margin = 1.645 x sqrt(5 x (p1(1-p1)/n1 + p2(1-p2)/n2)); for white-collar workers, with n = 4,315 and 4,417 person-month observations and shares of 28.5% and 23.2%, that is plus or minus 3.4 points. This ignores the positive covariance between years, so it overstates the margin of the change.

Results

Group	Unemployed (thousands, monthly average)	Share out 27+ weeks, 2026	2025	Change (points)	90% margin, BLS method	90% margin, conservative	Clears BLS	Clears conservative
All workers	7,364	25.8%	22.7%	+3.1	±1.1	±1.7	yes	yes
Blue-collar	1,714	22.7%	19.8%	+2.9	±2.2	±3.4	yes	no
White-collar	1,933	28.5%	23.2%	+5.3	±2.3	±3.4	yes	yes
White-collar, no bachelor's	633	26.4%	20.2%	+6.2	±3.9	±5.7	yes	yes
Knowledge workers	1,297	29.6%	24.8%	+4.8	±2.8	±4.3	yes	yes
White-collar, ages 55-64	312	39.1%	27.0%	+12.1	±6.1	±8.8	yes	yes

A change “clears” a margin when it is larger than that margin. Every change clears the BLS margin; blue-collar does not clear the conservative margin.

Not covered

Month-to-month changes, the Long-Search Index margin (about 11% of the three-month level, as published in the September edition), and medians, for which BLS publishes no parameters in the table used here.