

What's Behind the Declining Trend Unemployment Rate?

Andreas Hornstein, Marianna Kudlyak, Greeshma Avaradi, and Taerin Kim

The U.S. unemployment rate has trended down for decades. Estimates after removing business cycle fluctuations show that the trend rate fell from 7.8% in 1976 to 4.8% in 2024. This decline reflects in part a more-educated and older workforce—that is, a shift in composition towards demographic groups with traditionally lower unemployment rates. It also reflects newer cohorts entering the labor force with lower unemployment rates. Projections suggest that future demographic changes will gradually lower trend unemployment about 0.4 percentage point further over the next 20 years.

Underlying the well-known cyclical swings of the U.S. unemployment rate is a slower-moving trend. Properly assessing this trend is crucial for understanding what a given level of unemployment signals about the health of the labor market. The trend unemployment rate has fallen markedly over the past half century, while the population has become older and more educated. For example, comparing average for the subperiods 1976–1984 and 2016–2024 shows that the population share of individuals ages 55 and older increased about 10 percentage points, while the share with more than a high school education increased about 26 percentage points. This change in population composition could be behind the decline in aggregate unemployment because older and more-educated individuals tend to have lower unemployment rates.

In this *Economic Letter*, we analyze how much of the trend decline reflects the population's compositional shift versus lower unemployment rates for specific groups. We summarize the results from recent work by Hornstein and Kudlyak (2026) that uses detailed labor market data from 1976 to 2024. We estimate trends in the unemployment rate separately for 44 groups defined by the intersection of age, gender, and education. We then weight the contribution of these group-specific trends by their population shares to create an aggregate trend unemployment series. This bottom-up approach lets us separate changes in demographic composition from changes in unemployment within groups.

We find that the trend unemployment rate declined from 7.8% in 1976 to 4.8% in 2024. Roughly half of that decline reflects compositional change. The biggest compositional factor pushing down trend unemployment has been higher educational attainment, meaning the population composition has shifted towards individuals with higher education. Population aging also has contributed to the decline. We project that continued demographic changes will contribute to further modest declines, pushing trend unemployment down to about 4.4% by 2044.

The other half of the trend decline reflects lower unemployment within demographic groups, meaning that the unemployment rate for a worker of given demographic characteristics is lower now than in the past. Specifically, we find that recent cohorts of workers tend to have lower unemployment rates than earlier cohorts, even when comparing workers with the same age, gender, and education.

From group trends to aggregate unemployment

Trend unemployment is the unemployment rate expected to prevail once business cycle effects dissipate. Because that trend is not directly observed, we estimate it using annual Current Population Survey (CPS) data. Our groups are defined by two genders, four education categories, and seven age categories. For each gender-education-age group, we estimate a statistical model to separate both the unemployment rate and the labor force participation (LFP) rate over the past 50 years into a cyclical component and a trend component.

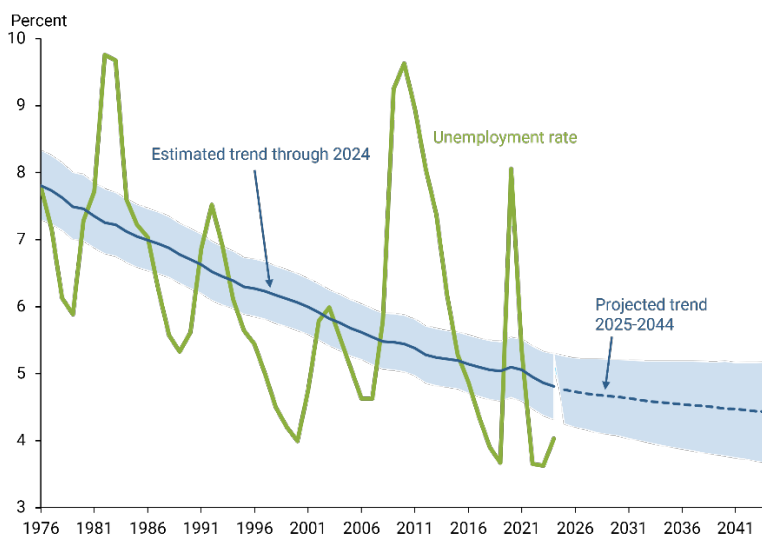
Our procedure creates a time-varying trend estimate for each gender-education-age group, which we define as a sum of slow-moving unobserved cohort effects and age effects. *Cohort effects* are durable lifetime differences associated with people born in different years. Cohort effects remain fixed throughout the life of a cohort but differ from one cohort to another. We estimate cohort effects that are specific for a gender-education group born in a particular year. *Age effects* capture life-cycle patterns, such as higher unemployment at labor-market entry and lower unemployment later in life. We estimate age effects that are specific for a gender-education-age group and for a calendar year. Allowing age effects to vary over time means that unemployment at a given age can shift structurally, rather than being forced to remain fixed for a specific age over the five decades in our sample.

As the population becomes more educated, labor demand for higher-educated workers changes, and this translates into different unemployment rates for higher-educated individuals. Our time-varying gender-education-age trends capture these effects.

We then combine the estimated group trends using observed population shares to weight each group's contribution. Because unemployment is measured as a share of the labor force, group-specific LFP rates also enter the calculation. Therefore, we separate changes in overall trend unemployment into four population categories: changes in age composition, changes in education composition, changes in the group-specific trend LFP rates, and changes in the group-specific trend unemployment rates. To generate forecasts of the aggregate trend unemployment rate, we combine the estimated group-specific trends with the U.S. Census Bureau (2023) age-gender population projections and the Hornstein and Kudlyak (2026) cohort state-space model for education shares.

Figure 1 shows the resulting estimated trend. The actual annual unemployment rate fluctuates substantially above and below this trend over business cycles, especially during the deep economic downturns of the early 1980s, the Great Recession, and the pandemic period. The

Figure 1
Actual and estimated trend unemployment rate, annual



Note: Trend is the median estimate of the trend components, with shaded bands denoting the 90% range of certainty around the trend.

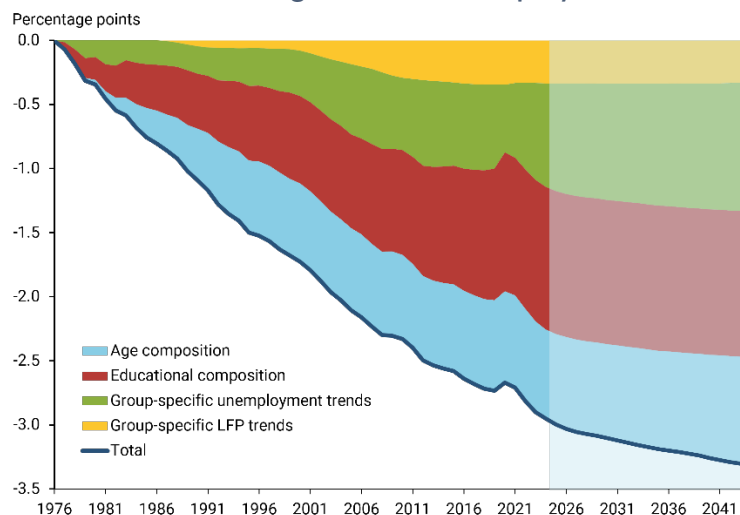
Source: Hornstein and Kudlyak (2026) and Current Population Survey.

estimated trend, by contrast, falls smoothly from 7.8% in the late 1970s to 4.8% by 2024. The dashed line shows the projected path continuing that gradual decline to roughly 4.4% by 2044. The figure shows that the decline in unemployment is not just a cyclical phenomenon: It reflects slow-moving structural and demographic forces.

What drove the decline?

Figure 2 separates the estimated cumulative change in the annual unemployment trend since 1976 into its components. The total decline was about 3.3 percentage points by 2024. Changes in workforce composition account for a little more than half of that decline. Rising educational attainment is the single largest compositional force, lowering the trend about 1.1 percentage points. Population aging lowers it roughly another 0.7 percentage point. Changes in group-specific LFP rate trends contribute relatively little, about 0.3 percentage point. The remaining decline, a bit under 1 percentage point, comes from lower group-specific trend unemployment.

Figure 2
Contributions to changes in trend unemployment rate



Note: Cumulative contributions; shading at right shows forecast period.
Source: Hornstein and Kudlyak (2026).

These contributions line up with large changes in the structure of the population. For comparison, we average over two subperiods of CPS data rather than compare to separate years to avoid mixed effects from business cycle trends. The share of the population ages 16 to 24 fell from 22.0% in 1976–1984 to 14.7% in 2016–2024. Over the same periods, the share of people ages 55 and older rose from 27.3% to 36.6%. Education shifted even more. Among prime-age adults ages 25 to 54, the share of people with more than a high school education rose from 21.0% to 31.9%, while the share with high school or less fell from 29.8% to 16.8%. Among those ages 55 and older, the share with more than high school rose from 6.0% to 21.3%. Because unemployment is systematically lower for older and more-educated workers, these shifts push the aggregate trend unemployment rate downward even if group-specific unemployment propensities do not change much.

Cohort and age effects in group-specific unemployment trends

Figure 2 also shows that part of the decline in the aggregate trend unemployment rate came from lower trends among demographic groups. The natural next question is whether the trends from group-specific declines are influenced more by time-varying age effects or from cohort effects. In other words, do people tend to have lower propensity to be unemployed than people the same age decades earlier, or do new generations tend to have lower propensity to be unemployed?

Figure 3 shows that the long-run decline in unemployment does not simply reflect that every age today faces a lower structural unemployment rate than the same age decades ago. Rather, newer cohorts appear to be bringing somewhat lower unemployment risk into the labor market. Hornstein and Kudlyak (2026) find that men's trend unemployment begins to edge down in the early 1990s, while women's trend unemployment declines more clearly around 2000. One exception is for college-educated women, whose trend decline begins earlier.

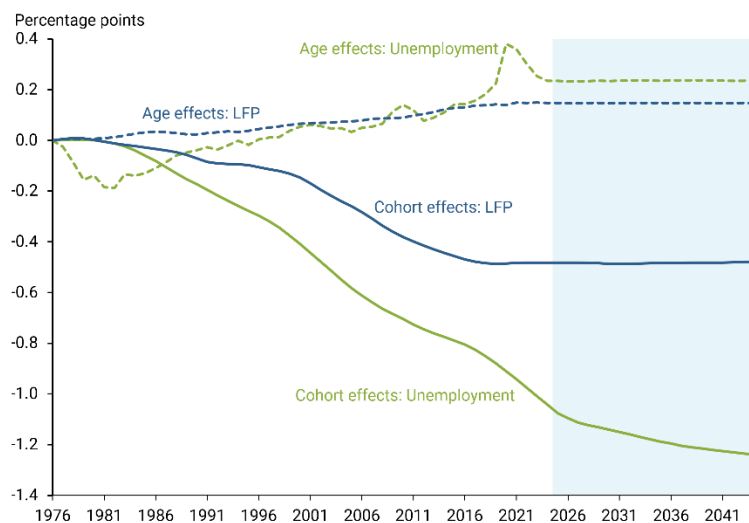
The gender comparison is informative, but it is not the main aggregate story. For both men and women, age and education composition matter; the bigger difference is that within-group trend unemployment declines somewhat more for men than for women.

Educational upgrading of entering cohorts

Figure 4 highlights the clearest compositional mechanism behind the declining trend in unemployment: higher educational attainment. The figure plots estimated education shares for entering cohorts of women, and these patterns are similar for male cohorts (not shown). The figure shows a steady long-run fall in the share of new female cohorts with less than high school education and a steady rise in the share with some college or a college degree.

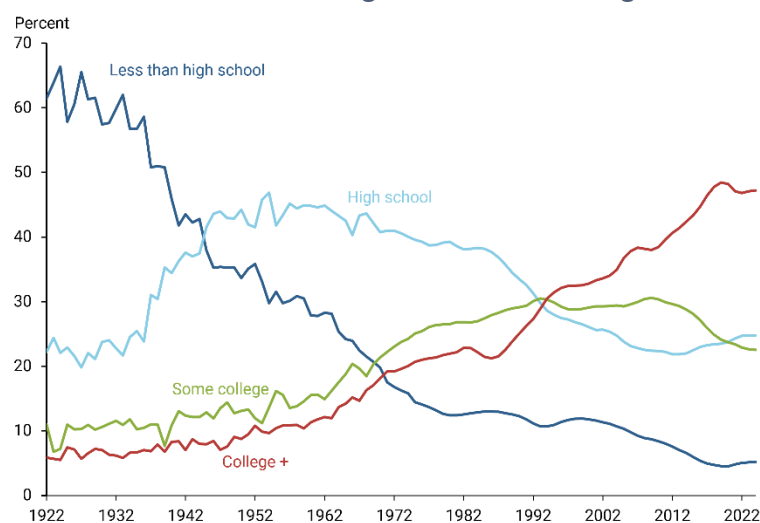
The size of the changes in shares by educational level are large. For women, the college share rises from less than 10% to roughly 50% for recent cohorts. For men, the share of entering cohorts with less than high school education level falls from around 70% for cohorts born in the late 1920s to single digits for recent cohorts, while the college share rises from around 10% to nearly 40%. Women's educational gains continue longer into the sample than men's, which is consistent with the stronger rise in female educational attainment emphasized in Hornstein et al. (2026).

Figure 3
Contributions to group-specific trend unemployment



Note: Cumulative contributions; shading at right shows forecast period.
Source: Hornstein and Kudlyak (2026).

Figure 4
Education shares of entering cohorts: Women age 25



Note: Cumulative contributions; shading at right shows forecast period.
Source: Current Population Survey, Hornstein and Kudlyak (2026), and authors' calculations.

Looking ahead

Combining the estimated group-specific trends, the age-gender population projections from the U.S. Census Bureau (2023), and the model estimates based on educational attainment, Hornstein and Kudlyak (2026) project that the aggregate trend unemployment declines about 0.4 percentage point over the next 20 years, from roughly 4.8% in 2024 to about 4.4% in 2044. Aging and education both help keep unemployment low because they shift the labor-force weight away from younger, high-unemployment groups and toward older, more-educated groups with lower unemployment. Aging tends to lower overall LFP because older people participate less, but the same aging process can lower overall unemployment because older workers who remain in the labor force tend to have lower unemployment rates.

Conclusion

Trend unemployment fell from 7.8% in 1976 to 4.8% in 2024. The analysis in this *Letter* shows that this primarily reflects compositional changes as the workforce became older and more educated and later cohorts entered the labor market with somewhat lower unemployment propensities. Higher educational attainment is the largest compositional force, while population aging and lower propensity for unemployment of younger generations explains the rest of the decline.

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U.S. Census Bureau. 2023. “[2023 National Population Projections Tables: Main Series](#).” Data set.

Data

[Download data for figures](#) (Excel, 238 kb)

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