

Historical Comparison Memo

Extreme-plausible AI labor disruption versus prior U.S. peak unemployment and support-population episodes

Prepared for policy planning purposes | March 17, 2026

This memo does not build a new forecast. It benchmarks the extreme-plausible scenario from the primary AI tail-risk report against the most severe comparable U.S. labor-market episodes on record and isolates the core policy difference: **past peaks were followed by reabsorption, while the AI tail-risk case remains elevated through the horizon and pushes more people out of the labor force.**

Bottom line

- The extreme AI case reaches 10.6% unemployment in 2037, roughly matching 1982 (10.8%) and slightly above the Great Recession peak (10.0%).
- Its support population reaches 40.1 million by 2040, above the pandemic-era support proxy peak of 36.2 million.
- The labor-force participation rate falls to 51.4% by 2040, below any comparable postwar reading.

Why history understates the risk

- Historical peaks were cyclical: unemployment rose, emergency support expanded temporarily, and a later expansion absorbed workers back into jobs.
- The extreme AI case is structural: repeated task destruction, redisplacement, participation exit, and wage competition in remaining human work.
- Policy therefore has to plan for a higher durable caseload, not just a deeper but temporary recession.

Method note. Comparable monthly unemployment and participation series begin in 1948. A broad historical support-population proxy is only consistently available from 1994 onward, so this memo uses unemployed + part-time for economic reasons + marginally attached as the nearest historical analogue. The AI case uses the model's support population: unemployed + underemployed + detached because of AI displacement.

1. Historical comparison at peak stress states

The table below is the shortest possible answer to the policy question. On headline unemployment alone, the extreme AI case looks like a severe recession. On support population, participation, and persistence, it looks structurally worse than prior cyclical episodes.

Episode	Peak date	Unemp. rate	Unemployed	Support / proxy	LFPR
1982 recession peak	Dec 1982	10.8%	12.1m	n/a (no consistent monthly proxy)	64.1%
Great Recession	Oct 2009 peak / Apr 2010 support proxy peak	10.0%	15.4m	26.9m proxy (Apr 2010)	65.0%
Pandemic shock	Apr 2020	14.8%	23.1m	36.2m proxy	60.1%
AI: peak unemployment	2037	10.6%	16.2m	37.6m model support population	53.2%
AI: persistent support peak	2040	10.1%	15.1m	40.1m model support population	51.4%

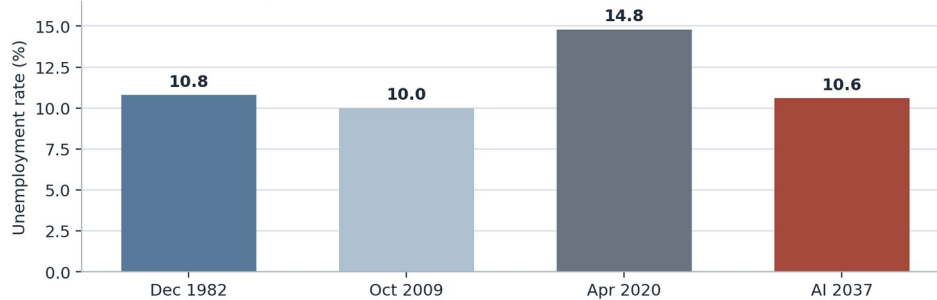
- On headline unemployment, the AI peak is roughly a 1982/2009-scale event.
- On total support burden, the AI case exceeds the Great Recession and eventually rises above the pandemic-era proxy peak.
- On participation, the AI case is worse than any comparable postwar episode in the table.

Reading the table correctly. The historical support-population proxy is not identical to the model support population; it is the closest consistent public analogue. Even with that caveat, the historical record still points in the same direction: the AI tail-risk case is not just a recession-like unemployment spike, but a larger and more durable support burden.

2. Headline unemployment versus total support burden

These figures show why policy cannot focus on the unemployment rate alone. The extreme AI case looks historically severe on headline unemployment, but its broader support population eventually exceeds prior historical peaks.

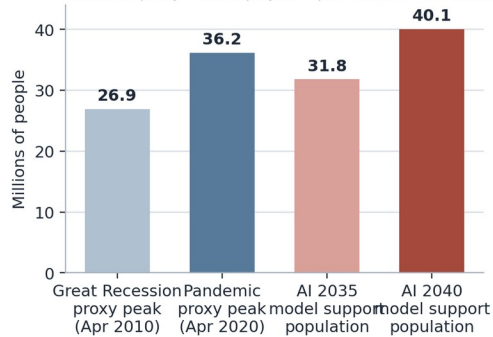
Figure 1. Headline unemployment under the AI tail risk would resemble the worst postwar peaks
Comparable seasonally adjusted monthly unemployment series begins in 1948.



AI 2037 is the peak unemployment year in the extreme-plausible scenario.

Figure 2. Broad support population would move beyond recession history and persist

Historical proxy = unemployed + part-time for economic reasons + marginally attached. AI measure = unemployed + underemployed + detached due to AI.



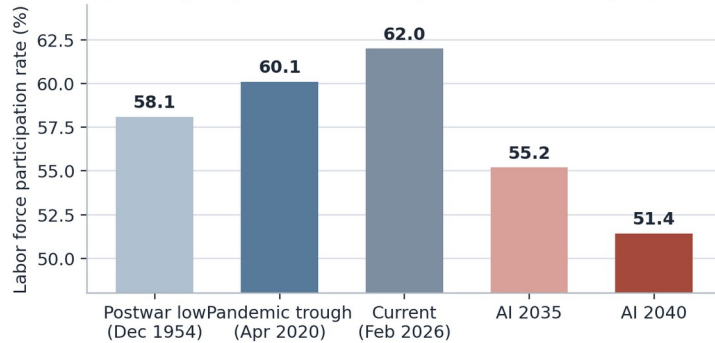
Historical proxy is only consistently available from 1994 onward.

Policy reading. If government plans only for an unemployment-rate problem, it will under-size the support system. The scenario shows a larger population needing help through underemployment, partial work, or labor-force detachment.

3. The defining difference: weak reabsorption

Every historical episode in the comparison eventually reabsorbed labor. The extreme AI case does not. Official unemployment remains around 10% through the end of the scenario, while participation keeps falling and support needs keep rising.

Figure 3. Participation falls below any comparable postwar reading in the extreme AI case
 Labor force participation is a critical policy variable because many displaced workers may exit rather than remain visibly unemployed.



Postwar comparable monthly LFPR series begins in 1948.

REABSORPTION TEST

Episode	Peak	+2 years	+5 years / horizon	Pattern
1982 recession	10.8%	7.3%	5.7%	Material reabsorption
Great Recession	10.0%	8.8%	5.7%	Gradual reabsorption
Pandemic shock	14.8%	3.7%	2 years later	Rapid rebound
Extreme AI case	10.6%	n/a	10.1%	No meaningful reabsorption by horizon end

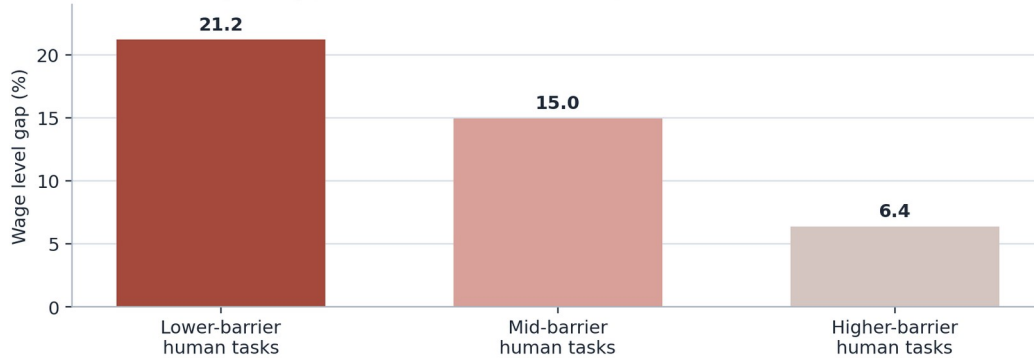
By 2040 the scenario's support population reaches 40.1 million even though official unemployment is lower than the pandemic spike. That is the signature of non-reabsorption: more people remain detached, partially attached, or crowded into worse jobs instead of cycling back into stable employment.

4. Why this case differs from prior policy episodes

Historically, the U.S. has responded to severe labor-market shocks with temporary emergency support because the underlying assumption was cyclical recovery. The extreme AI case is different because it combines job loss with persistent redisplacement and wage pressure in the remaining human tasks.

Past cyclical peaks	Extreme AI tail risk
<ul style="list-style-type: none">• The shock was primarily a demand, financial, or public-health shock.• Emergency support was designed as a bridge to later reemployment.• Headline unemployment fell materially within 2-5 years in prior peaks.• Policy caseloads could wind down with the recovery.	<ul style="list-style-type: none">• Task destruction continues after the initial displacement wave.• Previously reemployed workers can be displaced again as capability expands.• Displaced workers add labor supply to remaining human jobs, slowing wage growth and increasing underemployment.• Program demand persists because the support population does not normalize within the horizon.

Figure 4. The scenario also pressures wages in remaining human-employable work
Modeled 2035 wage level gap versus the non-tail-risk reference path.



This widens the set of households that may need support even while employed.

Planning implication. The historical comparison argues for sizing policy to a durable support floor, not just a temporary unemployment spike. In the extreme AI case the planning burden is approximately 31.8 million people by 2035 and 40.1 million by 2040, with official unemployment around 15-16 million and modeled wage levels already 21% below reference in lower-barrier human work.

Data notes and source anchors

This memo is intentionally short. The list below identifies the core public series and reports used for the historical comparisons and for the scenario assumptions inherited from the primary tail-risk report.

- Comparable monthly unemployment and labor-force participation series begin in 1948. Earlier monthly unemployment estimates exist but are not directly comparable because they are not seasonally adjusted and use different age definitions.
- Current baseline anchors: February 2026 BLS Employment Situation (4.4% unemployment, 62.0% labor-force participation, labor force about 170.5 million).
- Structural reference path: BLS labor-force projections through 2034 (LFPR declines from 62.6% in 2024 to 61.1% in 2034, with labor-force growth slowing as the population ages).
- Historical peak unemployment and participation values: FRED series sourced from BLS (UNRATE, unemployed persons, labor-force participation rate).
- Historical support-population proxy: unemployed persons + persons at work part time for economic reasons + marginally attached workers. This consistent monthly proxy is only available from 1994 onward.
- Policy-response context: CBO historical reviews of unemployment insurance and automatic stabilizers show that past emergency expansions were temporary and associated with cyclical downturns.
- Forward-looking AI scenario anchors in the primary report: OpenAI task exposure estimates, Anthropic Economic Index and 2026 labor-market analysis, Stanford HAI AI Index findings on adoption and early-career effects, and METR evidence on rapid frontier capability gains.

Important interpretation constraint. The AI support population is a model output rather than an official survey series. The historical comparison therefore should be read as a policy-sizing benchmark, not as a literal apples-to-apples equivalence. The policy takeaway is robust even under that limitation because the scenario remains unusually severe on three separate dimensions at once: unemployment, participation loss, and persistence.