

TN's Economy Continues to Grow

TGFOA

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UTK Chancellor
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THE UNIVERSITY OF
TENNESSEE
KNOXVILLE



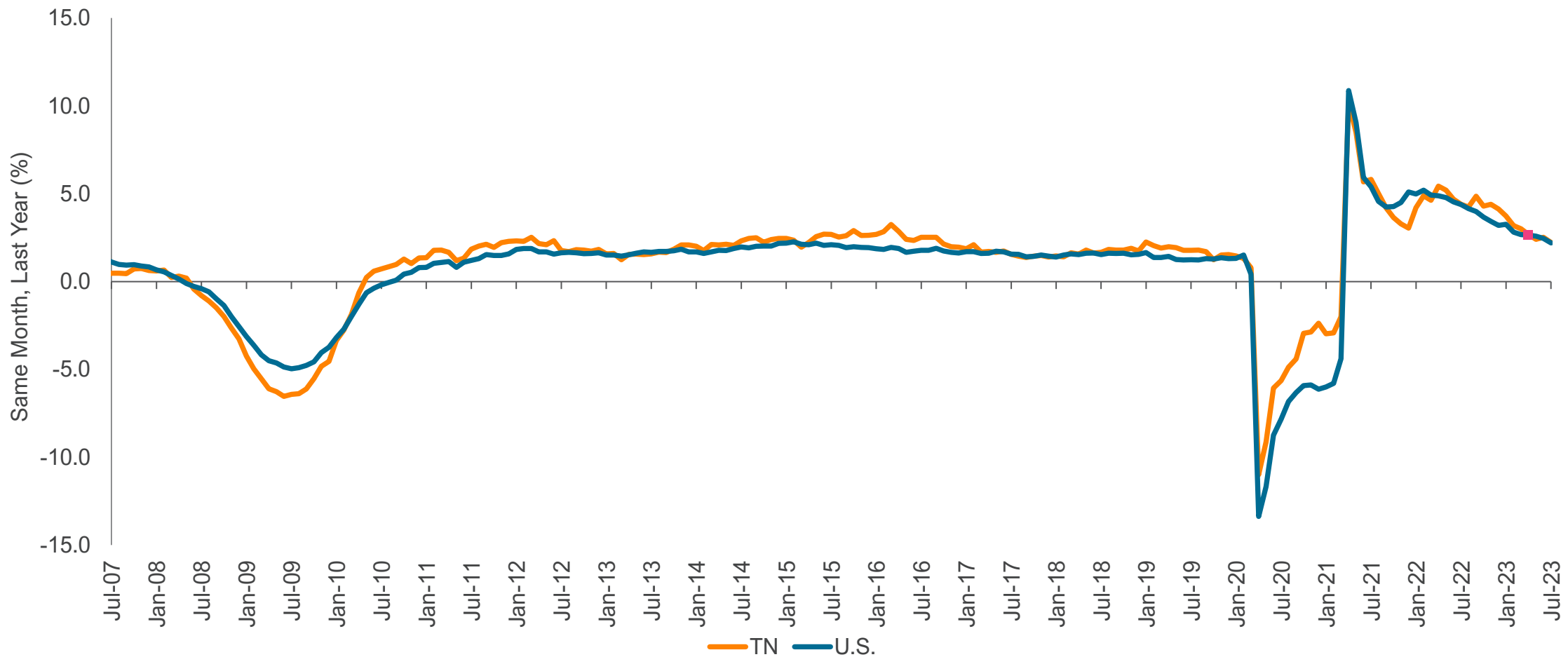
The National Economy Remains Solid, GDP is Growing. Will There be a Recession?



Source: BEA



TN and the U.S. Continue to See Strong, though Slowing Job Growth



Factors Affecting the Economy

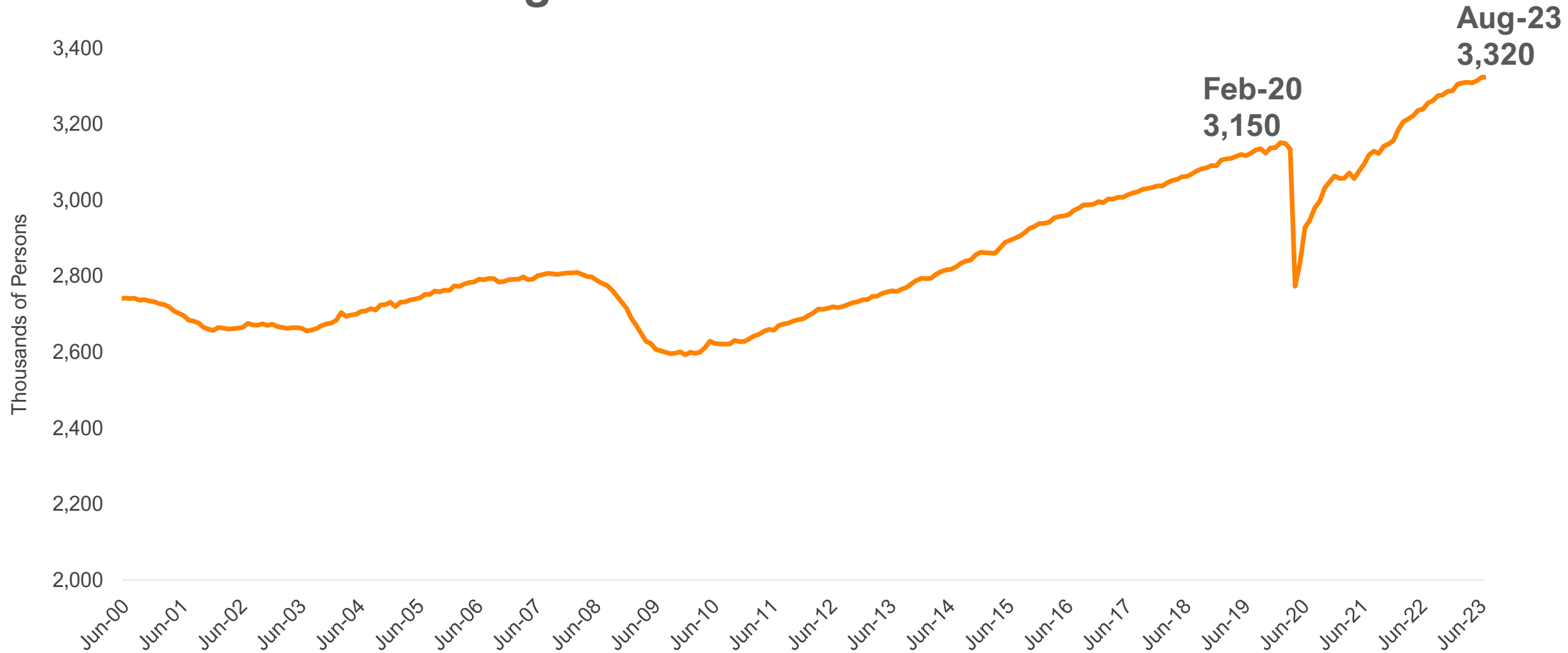
Sources of Strength

- Consumer Spending
- Employment

Shocks

- Higher Interest Rates
- High Oil Prices
- Federal Government Shutdown
- UAW Strike

Tennessee Employment has Fully Recovered from the Pandemic, and is 9th Fastest Among States

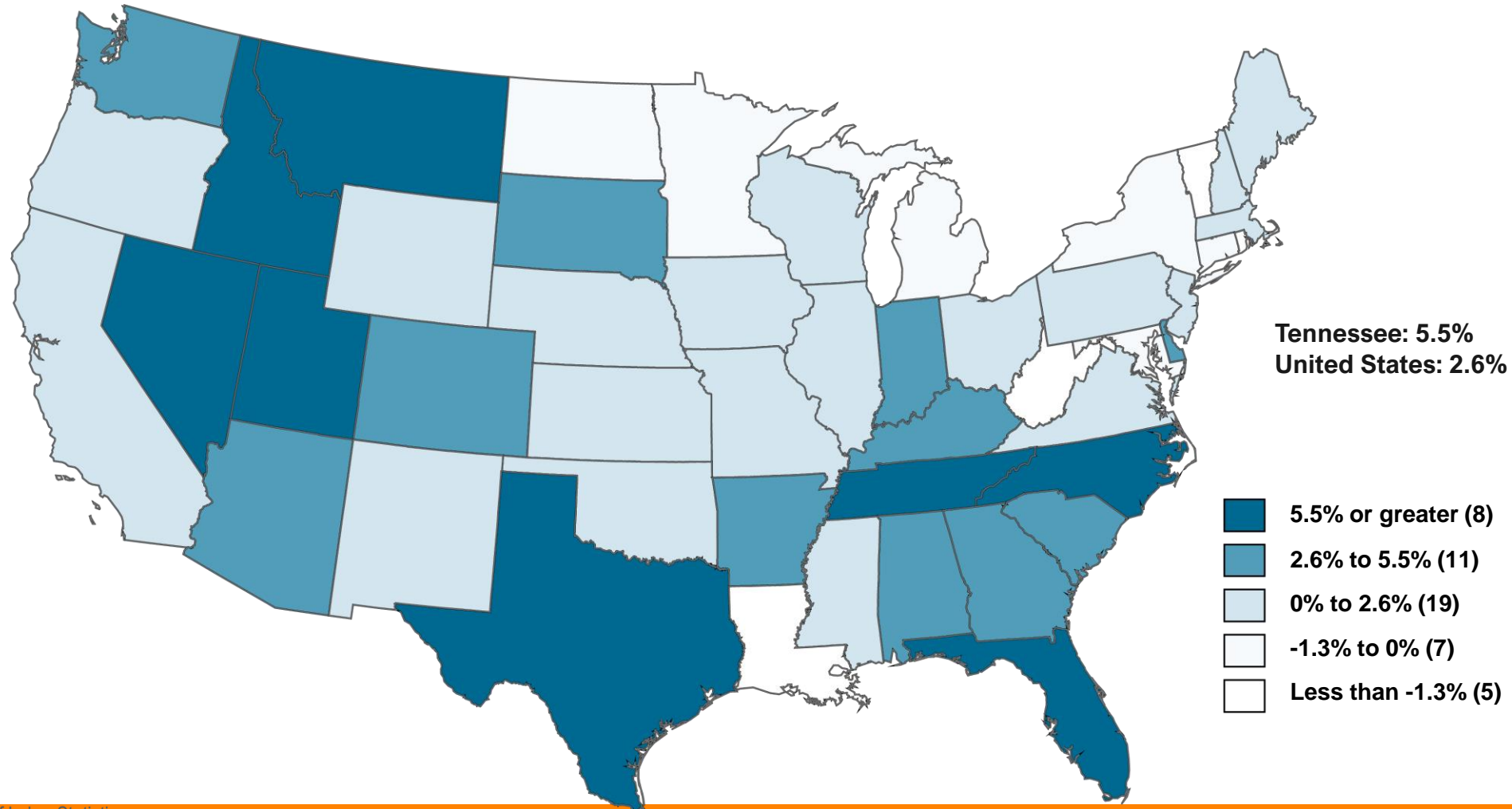


Source: Bureau of Labor Statistics



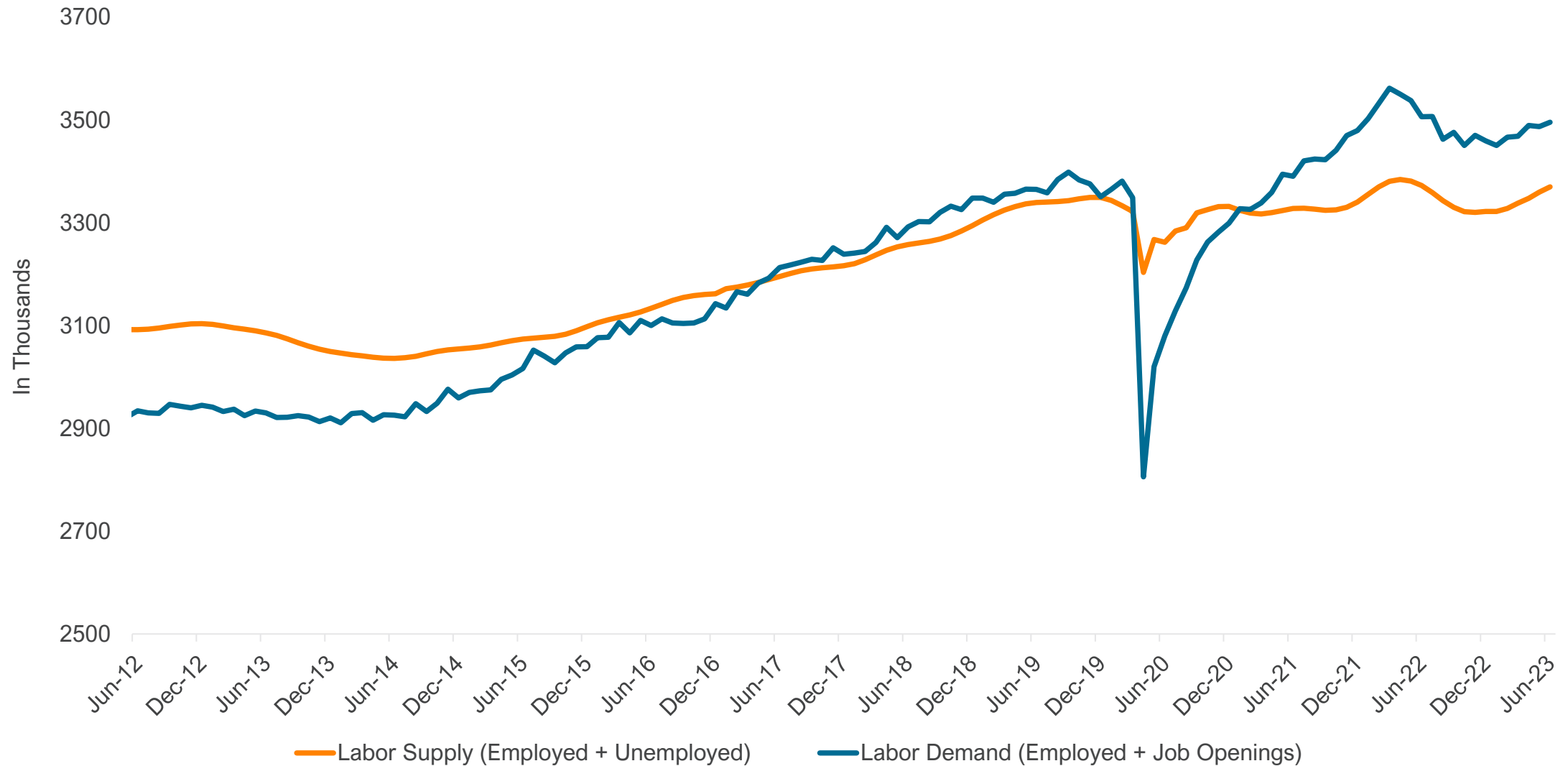
Tennessee is Among the State's with the Fastest Employment Growth

Nonfarm Employment Growth, February 2020 versus June 2023

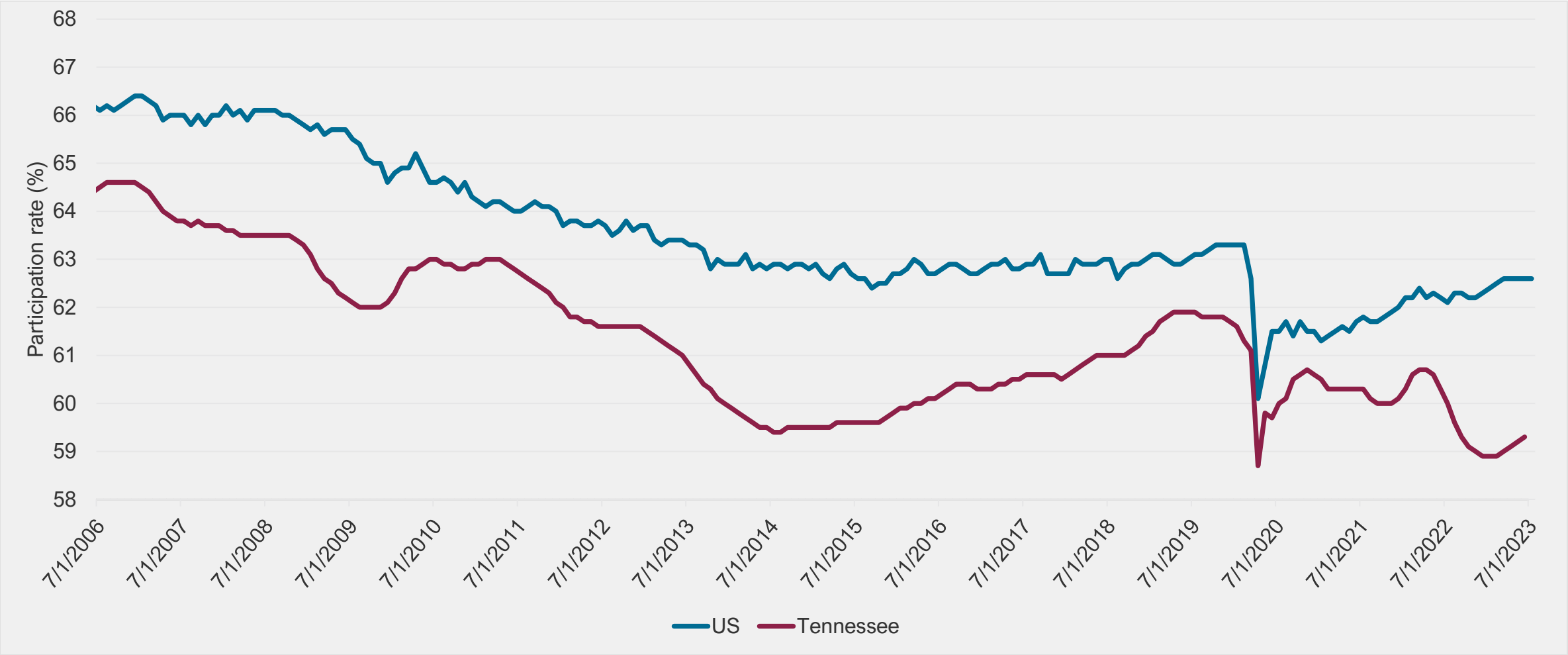


Source: Bureau of Labor Statistics

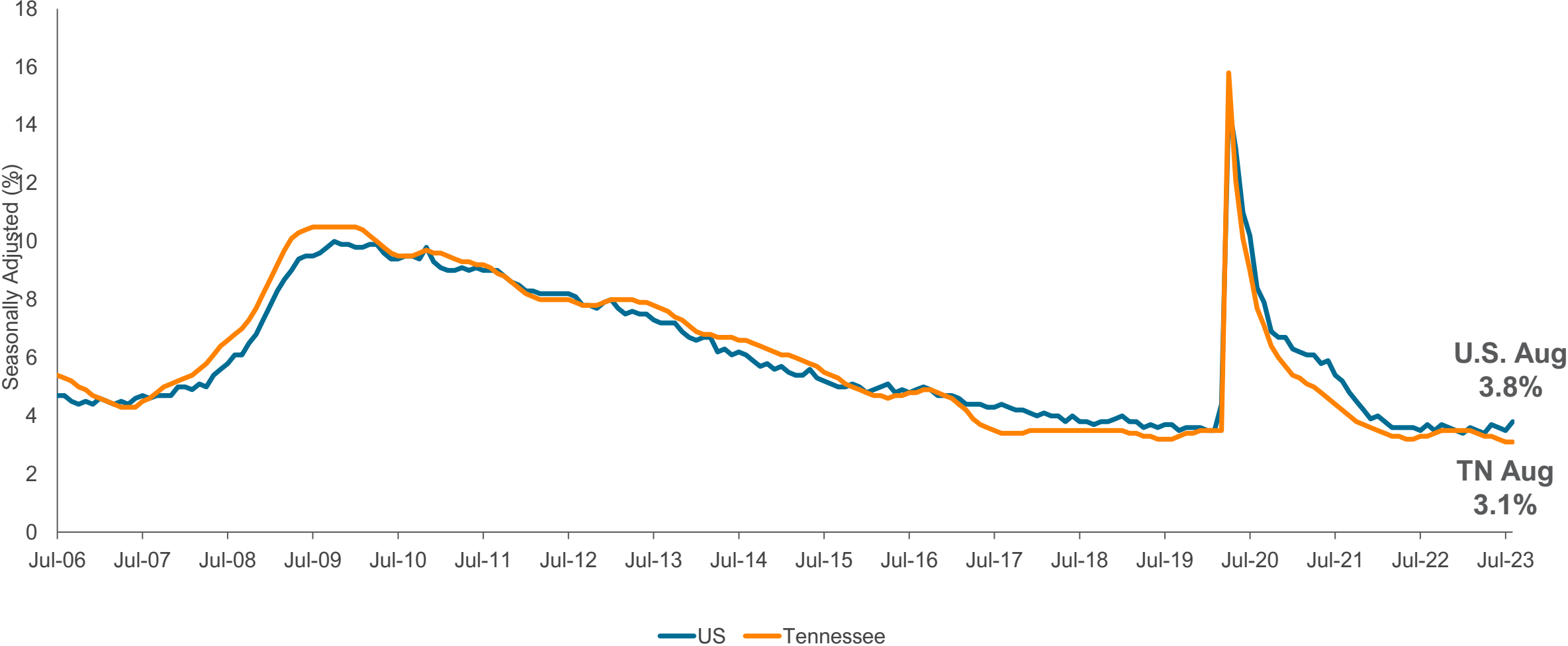
The Worker Shortage in Tennessee Remains Large



Labor Force Participation has Only Fallen for those over 54. Tennessee has Lower FLPR than the nation.



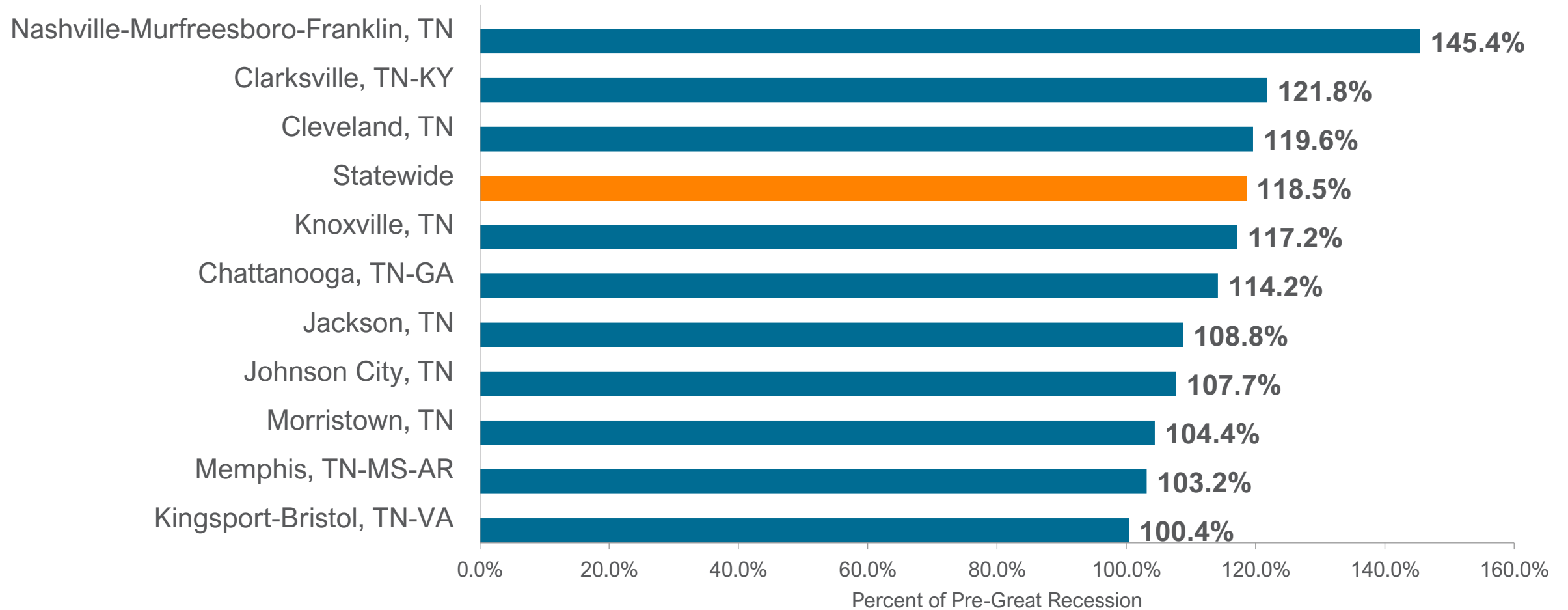
Unemployment Rates Remain Very Low, Particularly in Tennessee



Source: Bureau of Labor Statistics

Long Term Employment Growth Differs Dramatically Across Tennessee

(Growth Since Great Recession)



Source: Bureau of Labor Statistics

Inflation Rate has Fallen Rapidly, but How Much Further Does the FED want to go? (U.S. Consumer Price Index Growth Rate)



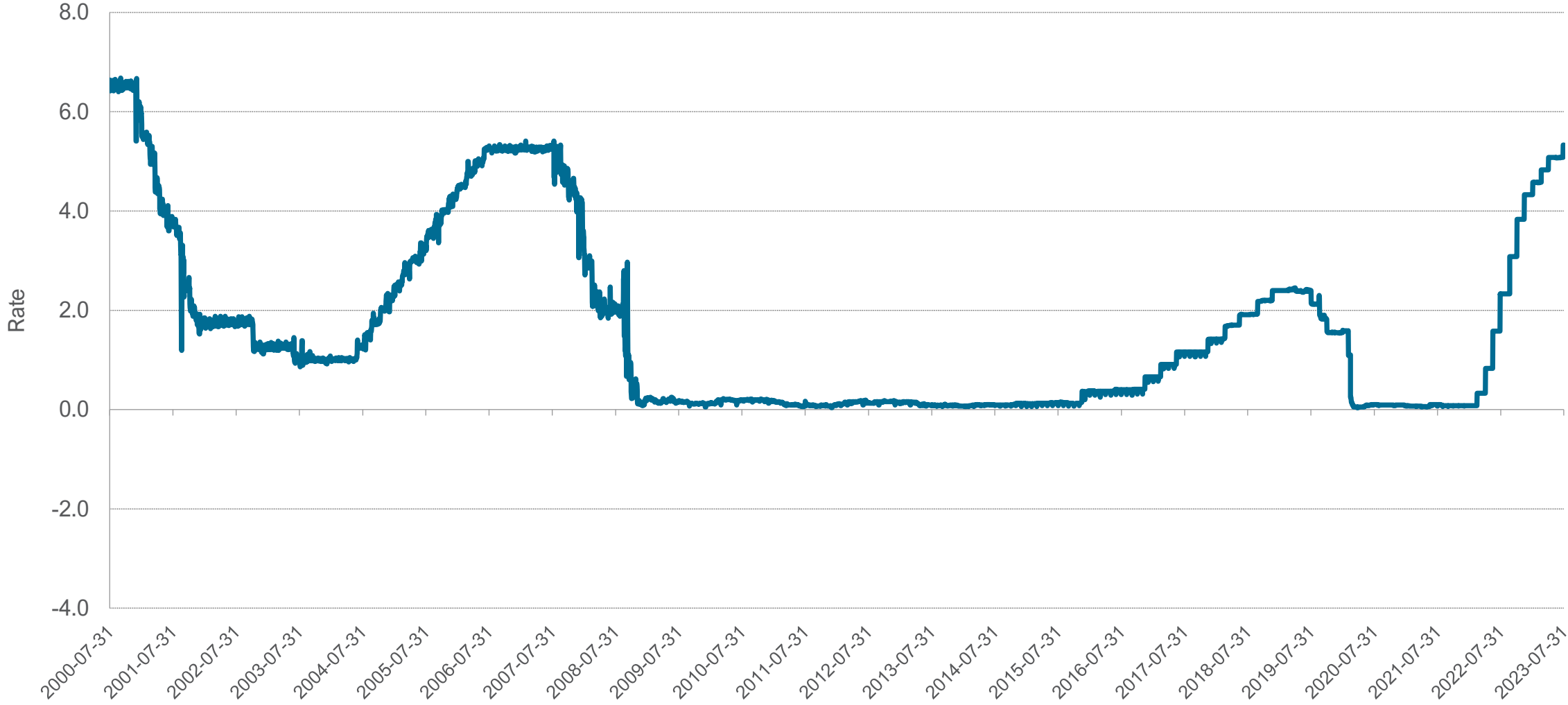
Source: BLS

Oil Prices Have Risen Recently, Offsetting some Decline in Inflation (WTI Spot Price in U.S. Dollars (Per Barrel))



Source: EIA

Fed Monetary Policy has Been Very Aggressive, Fed Funds Rate



Source: Board of Governors of the Federal Reserve System (US)

Tennessee House Price Index Still Rising, though Growth Rates have Moderated

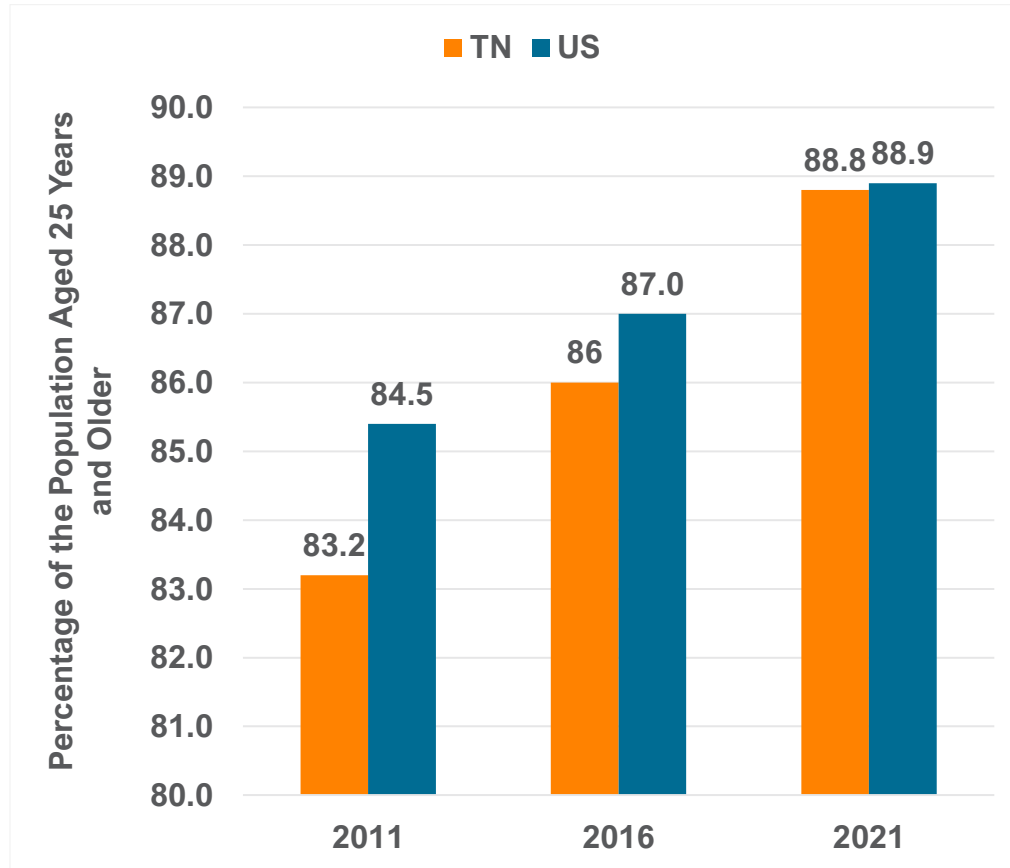
(Seasonally Adjusted, Purchase-Only Index)



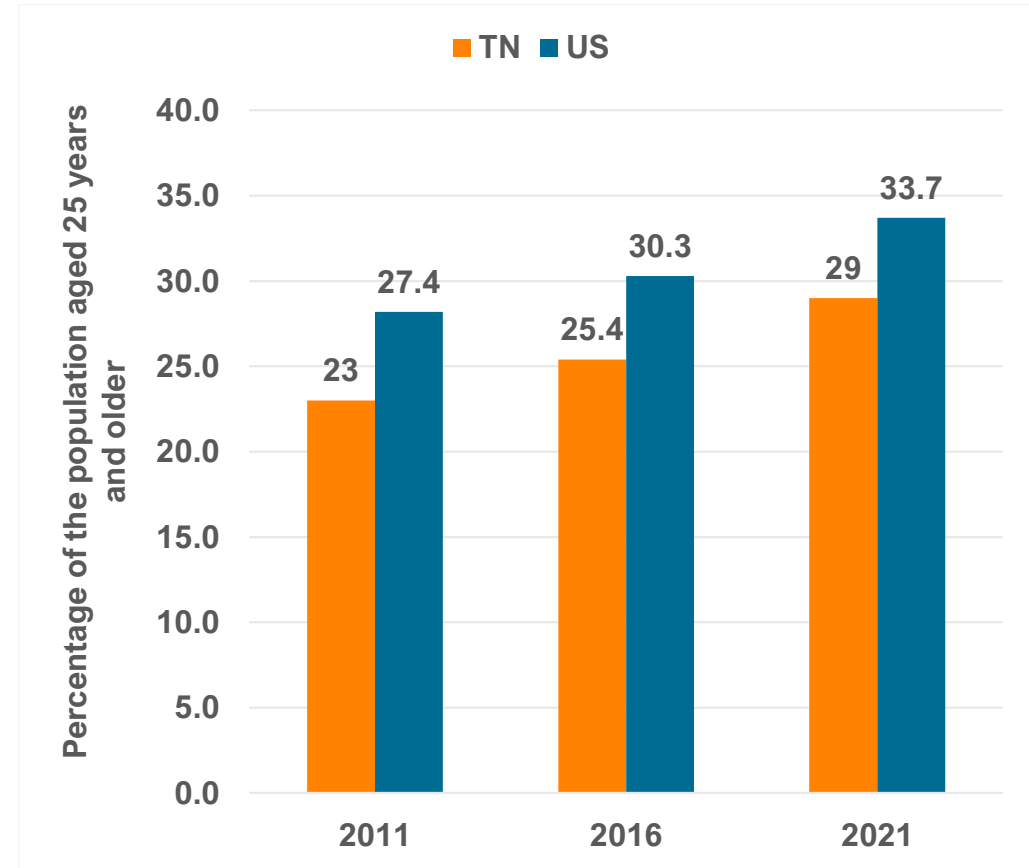
Source: Federal Housing Finance Agency

Tennessee Has Lower Post-HS Educational Attainment than the US Average

High School Graduates or Higher

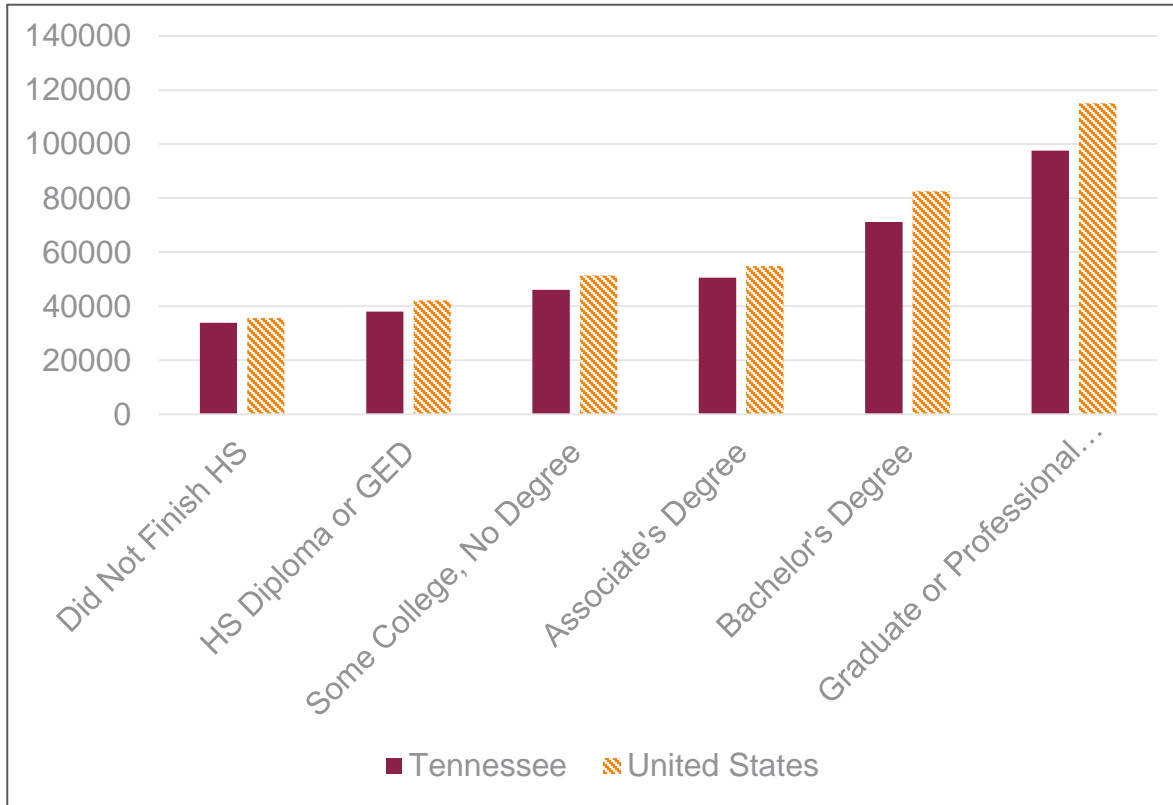


Bachelor's Degree or Higher

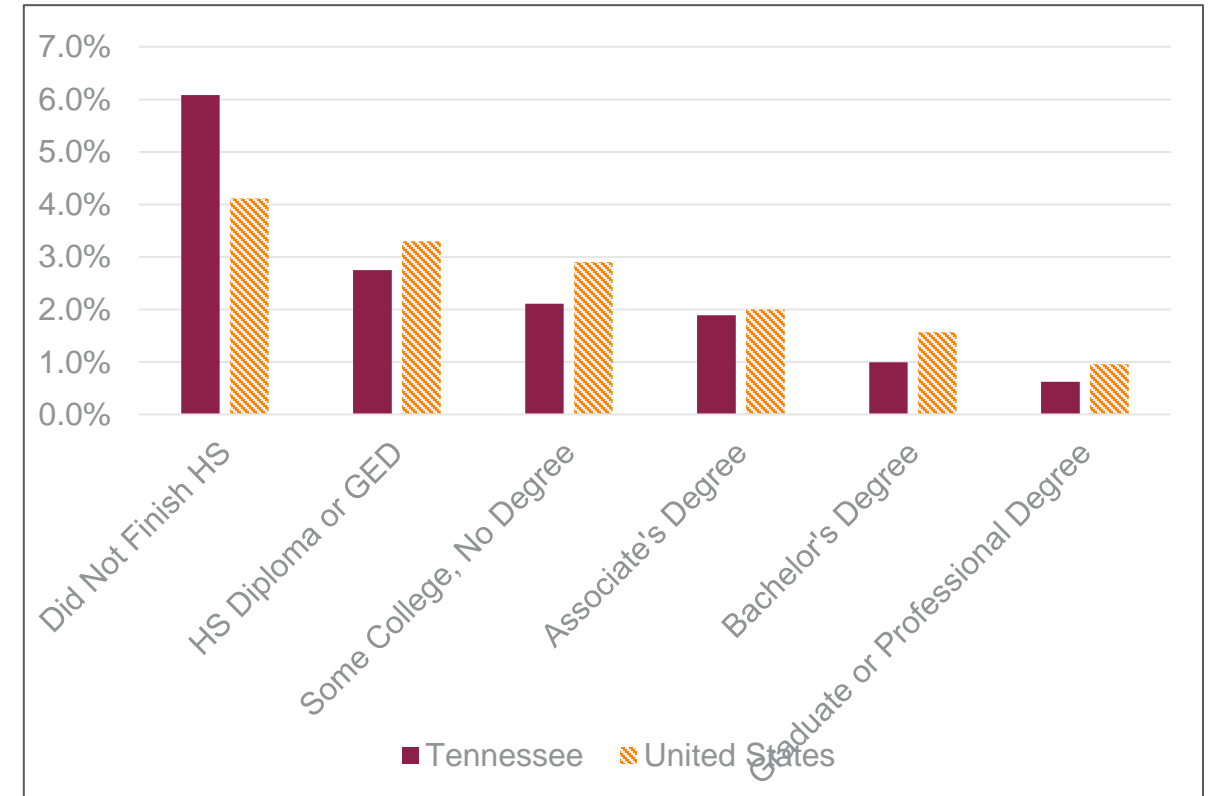


Better Educated People have Higher Earnings and Lower Unemployment

Annual Salary and Wages (2021\$)

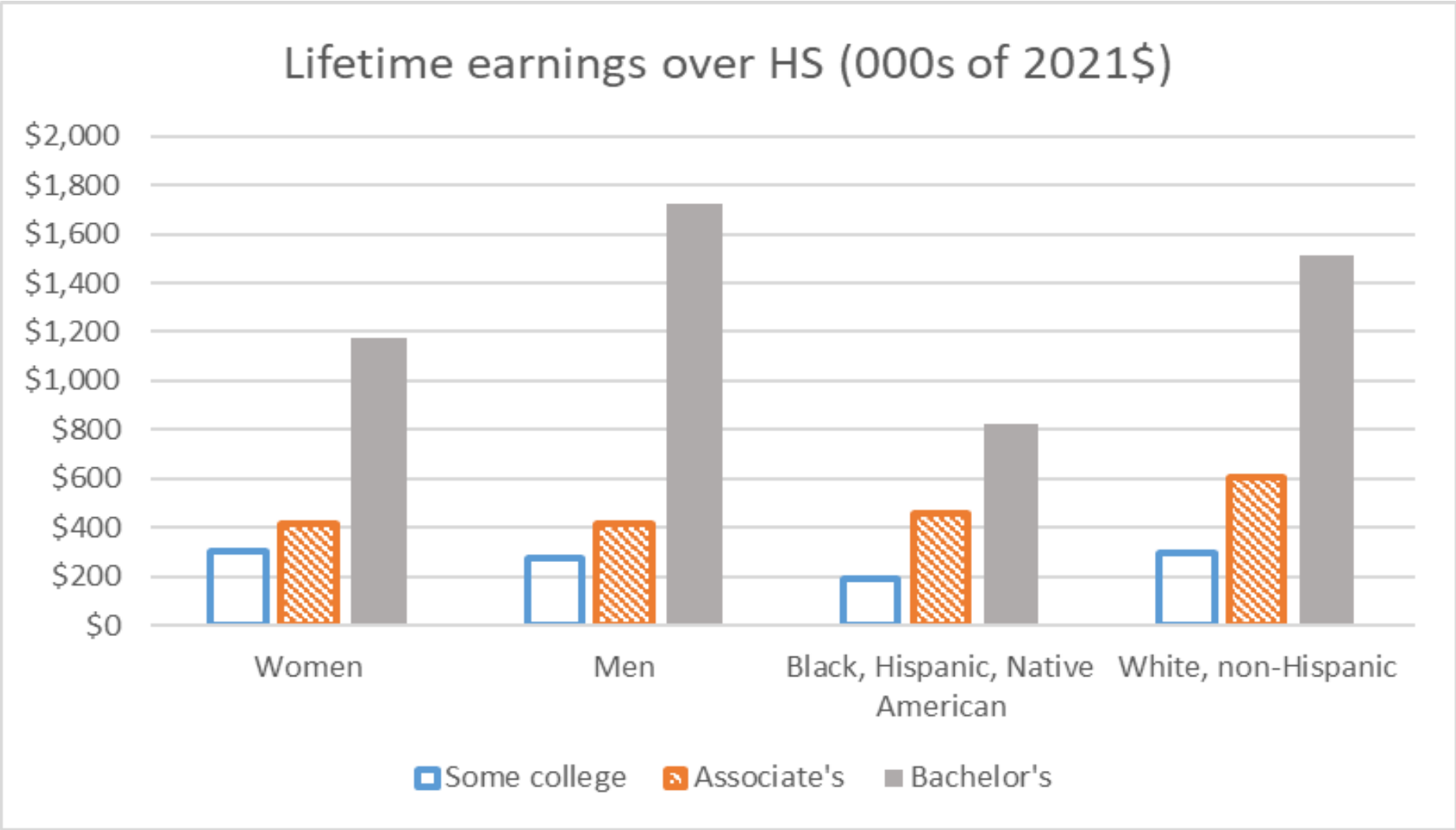


Unemployment Rate (%)



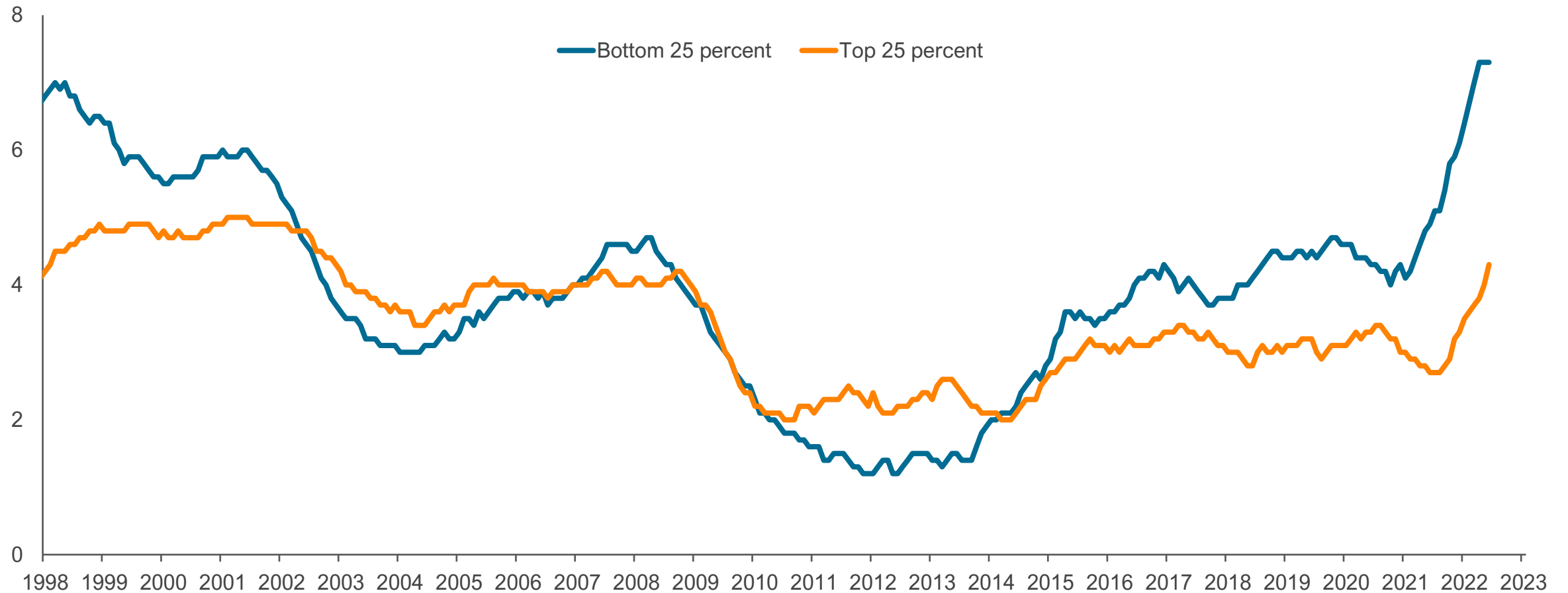
Notes: Carruthers (2023) using the 2021 American Community Survey, limited to 18-64 year-olds working full-time in the previous year.

All Demographic Groups Benefit from More Education

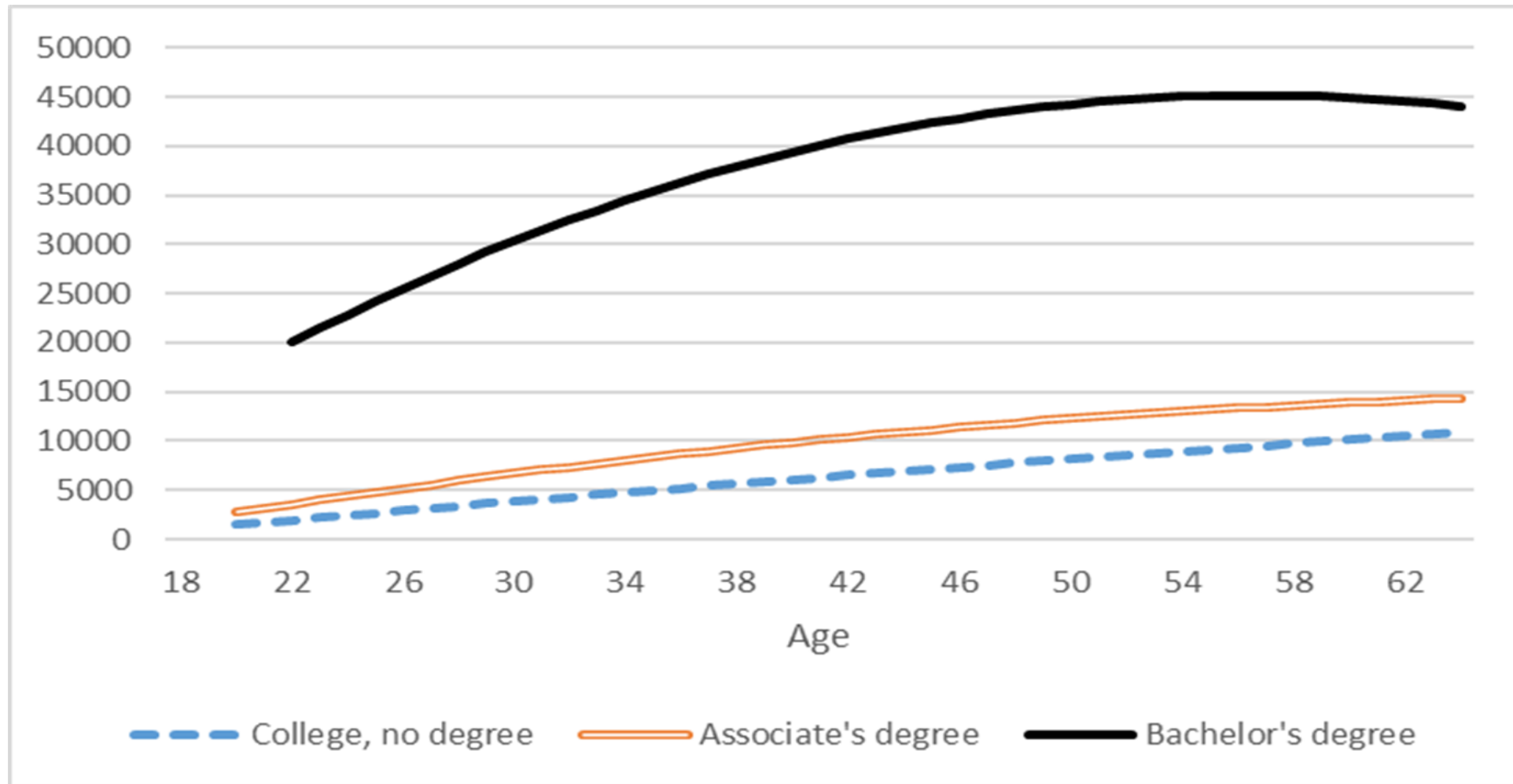


Carruthers, 2023

Wages are Growing Faster at the Lower End of Wage Distribution



The additional earnings for college educated workers, relative to high school-educated workers, widen over workers' careers

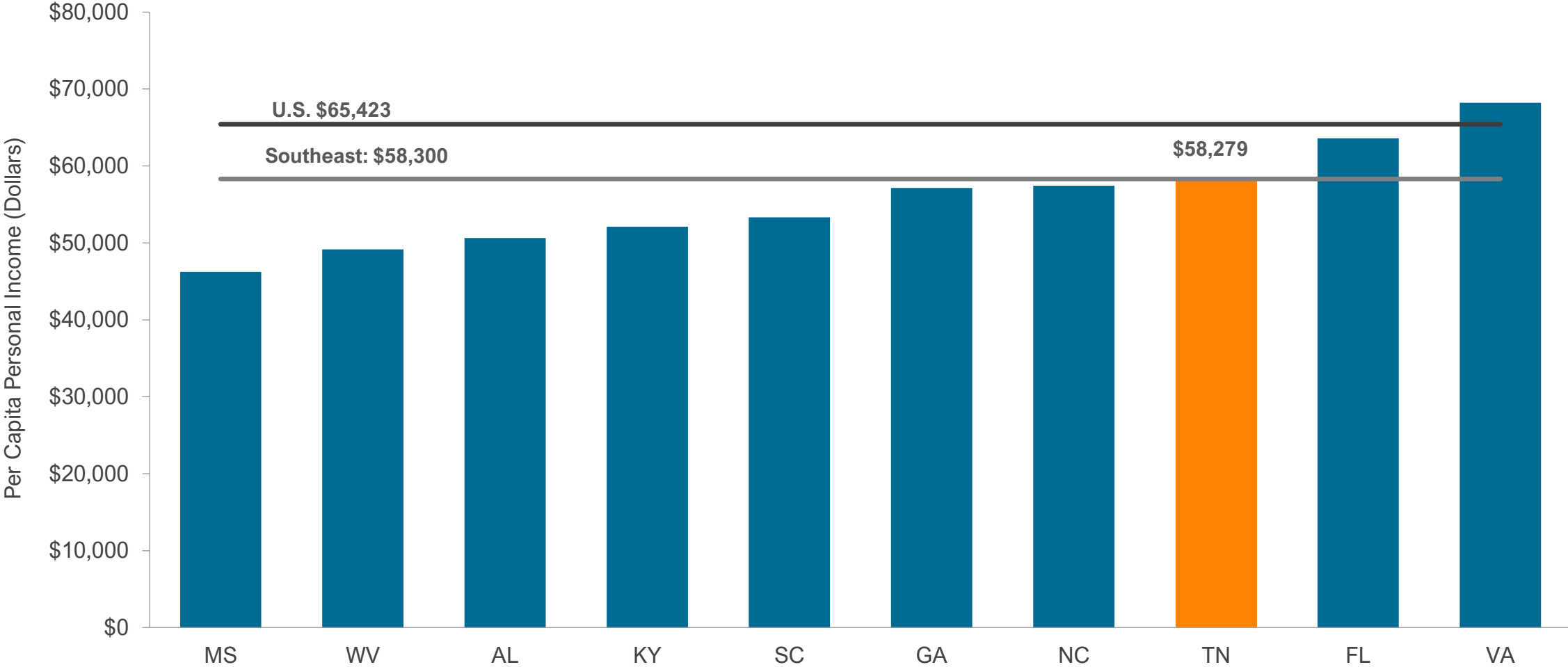


Source: Carruthers, 2023

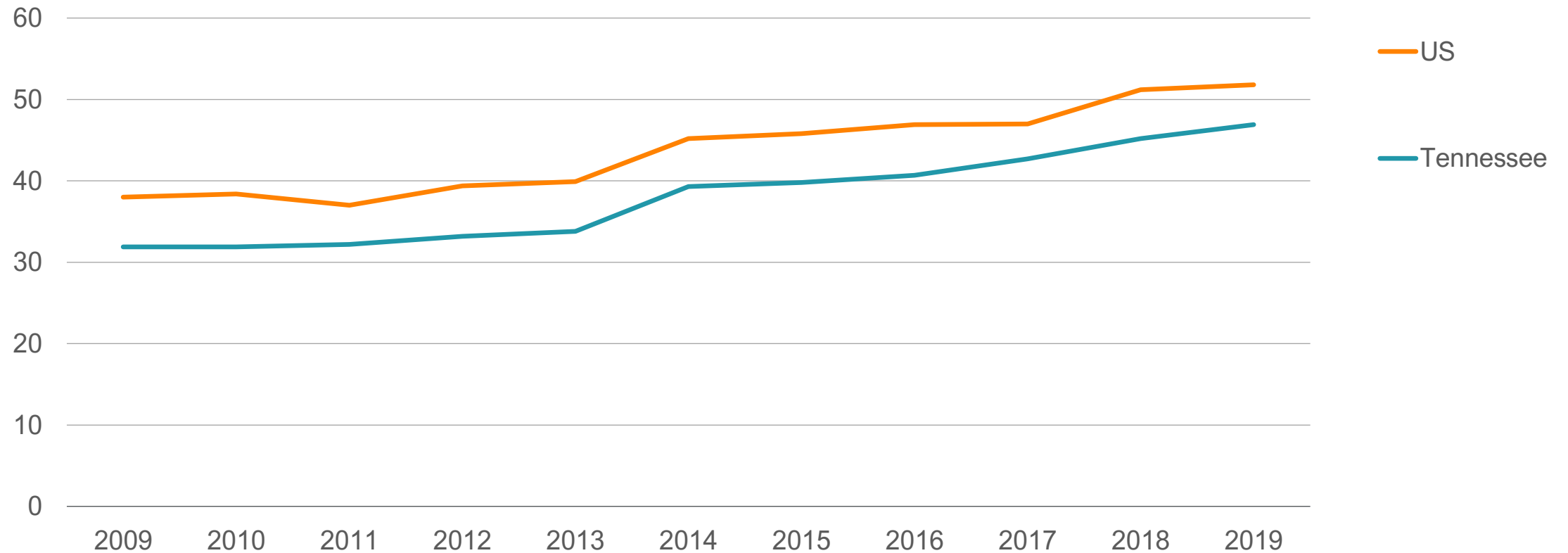
Long-Term Role for Delivery Workers?



Tennessee Per Capita Income is 31st Highest in the US

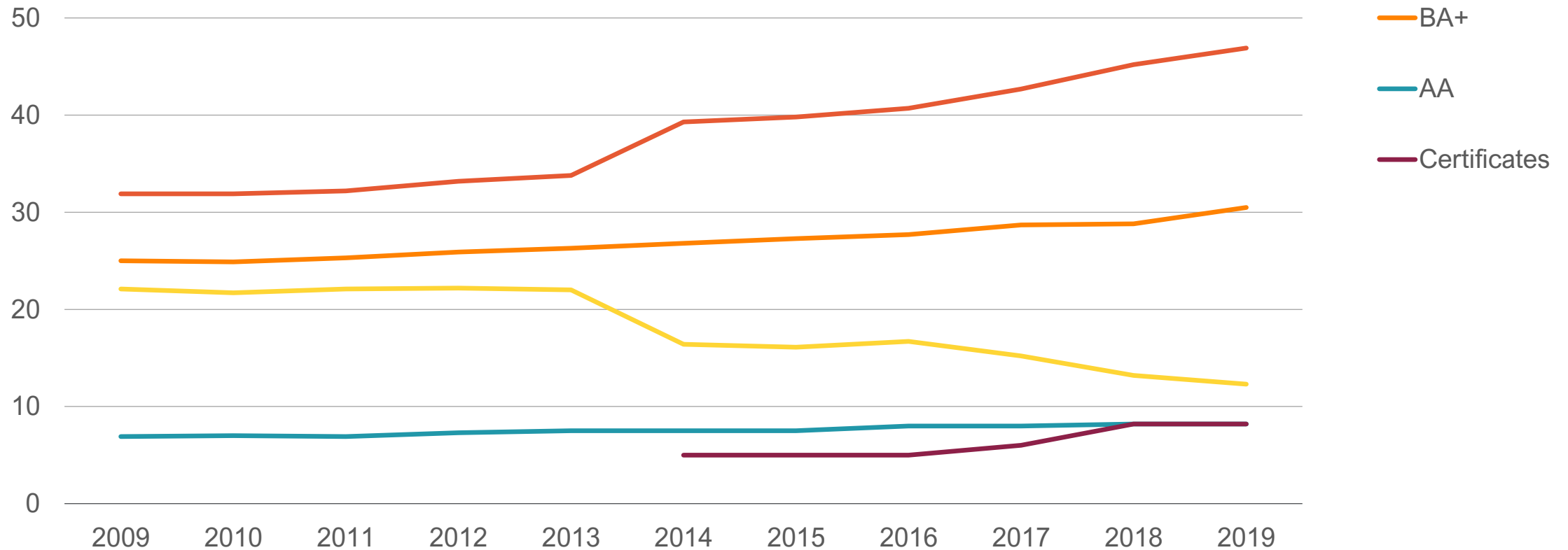


Pre-Covid TN Saw Very Strong Increases in Post High School Attainment, But Remained well Under US and the Drive to 55 Target



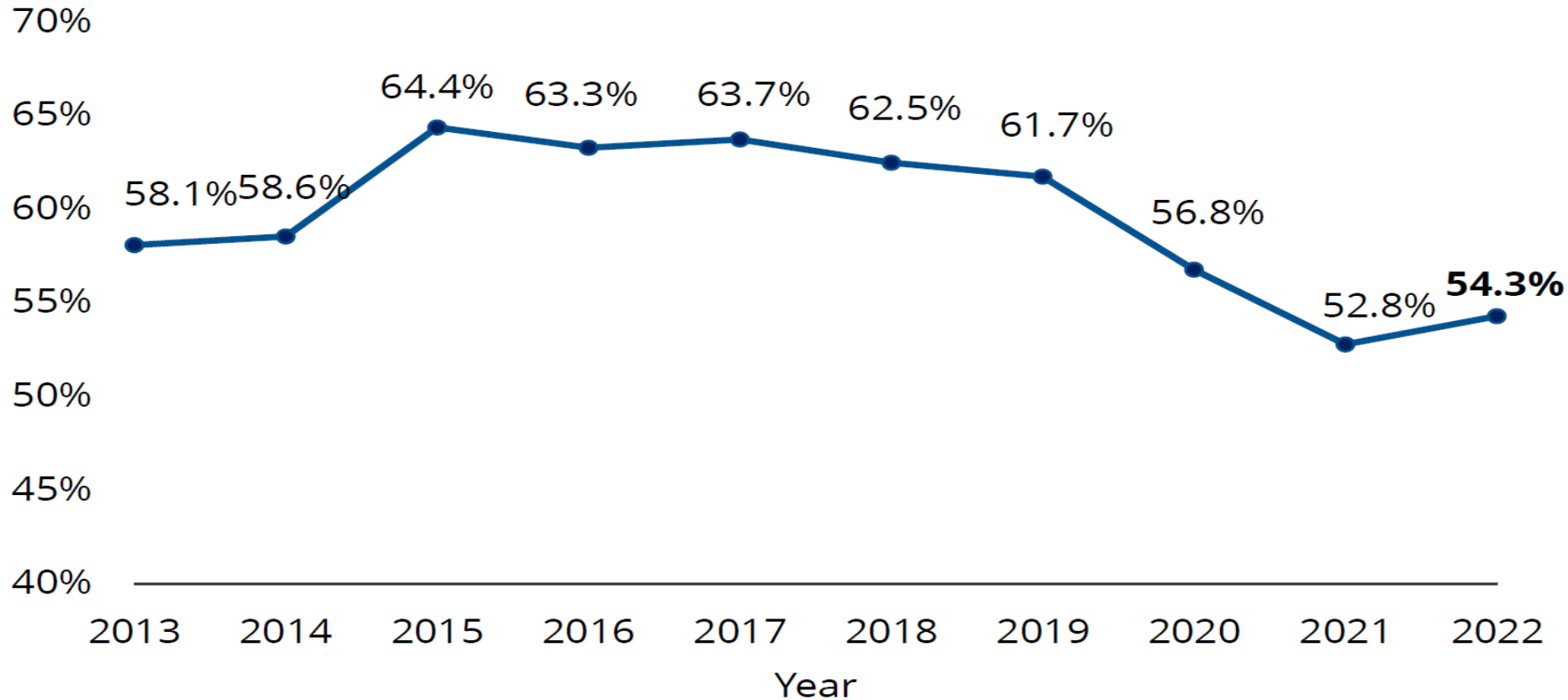
Source: Lumina Foundation

TN Improved in all Areas of Post HS Attainment, except some college

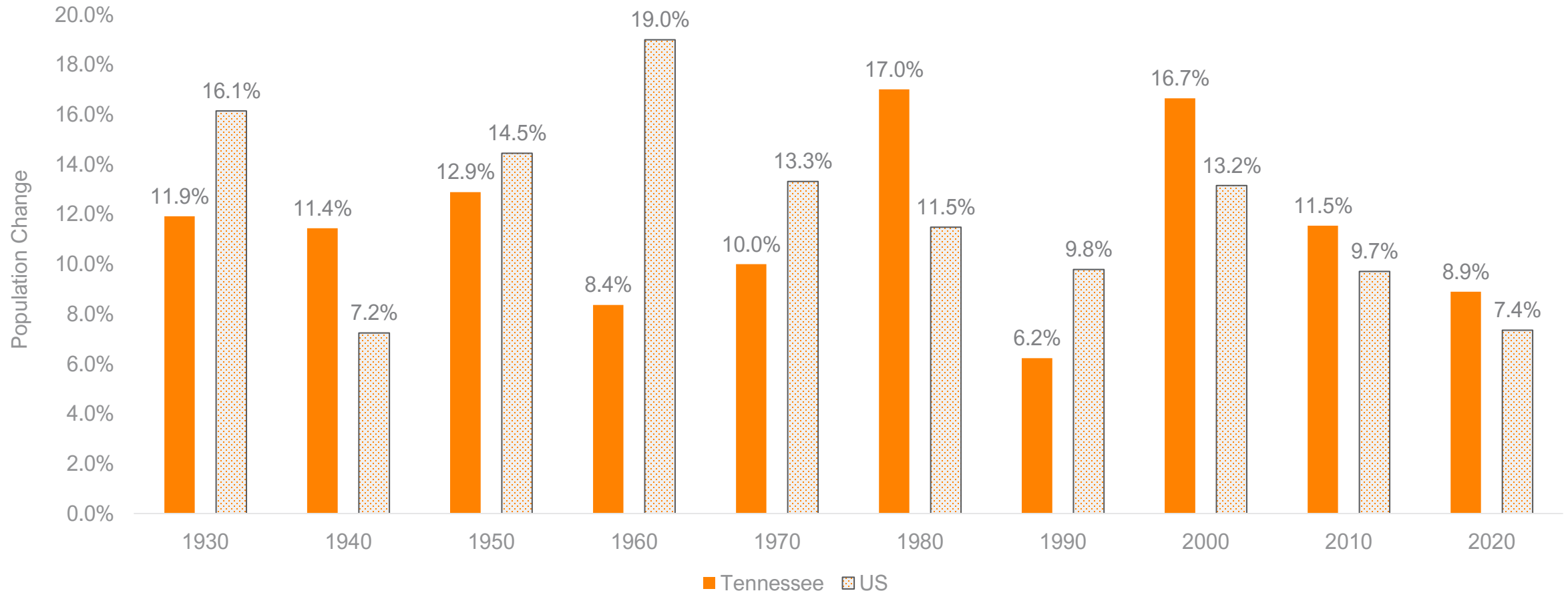


Source: Lumina Foundation

Tennessee Public High School College Going Rates have Fallen Below Pre-Tennessee Promise Levels

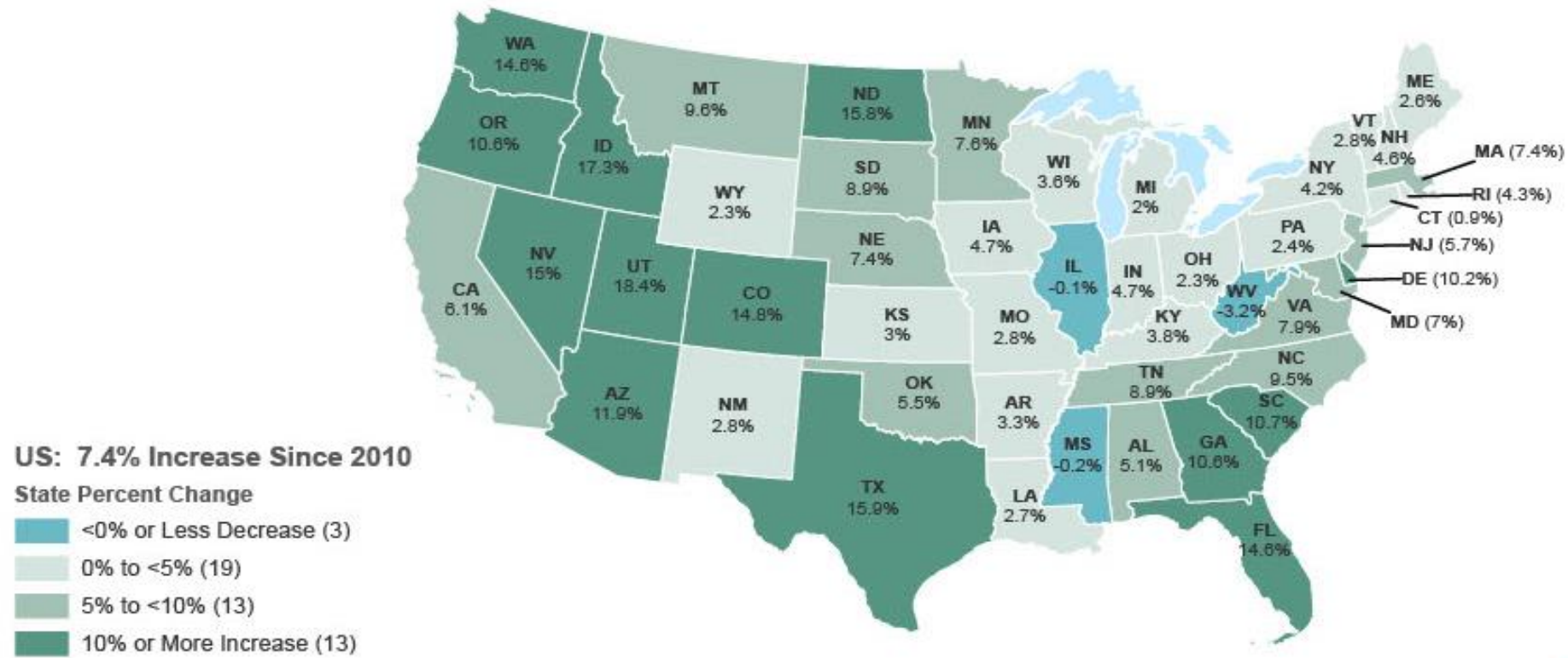


Over the Last Two Decades, Population Growth has Slowed Radically for TN and the Nation. Lowest Growth since the 1940s



Tennessee's Population Growth is 16th Fastest Among States

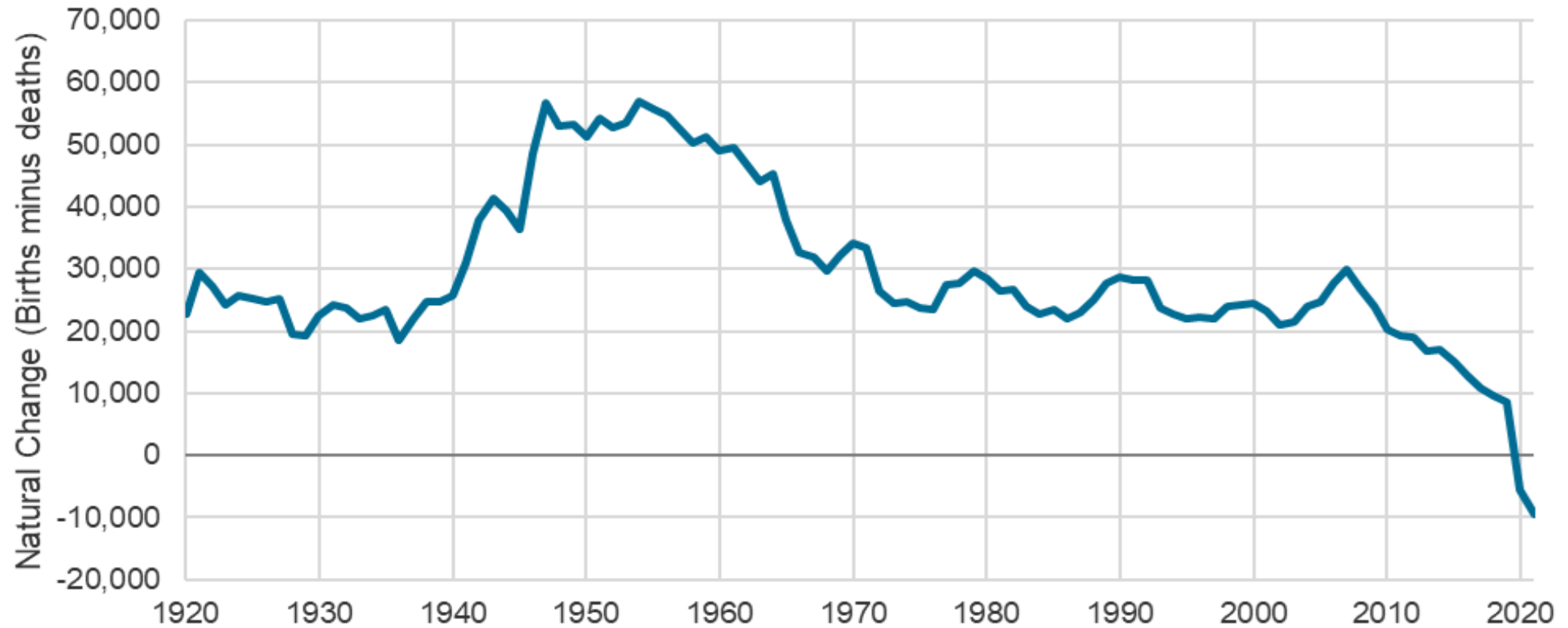
2020 Census: Percent Change in Resident Population (2010-2020)



Map: Tennessee State Data Center, University of Tennessee, Knoxville. Source: Resident Population of the 50 States (Table 2), US Census Bureau, 2010 and 2020. Note: Resident population excludes counts of overseas U.S. military and federal civilian employees (and their dependents living with them).



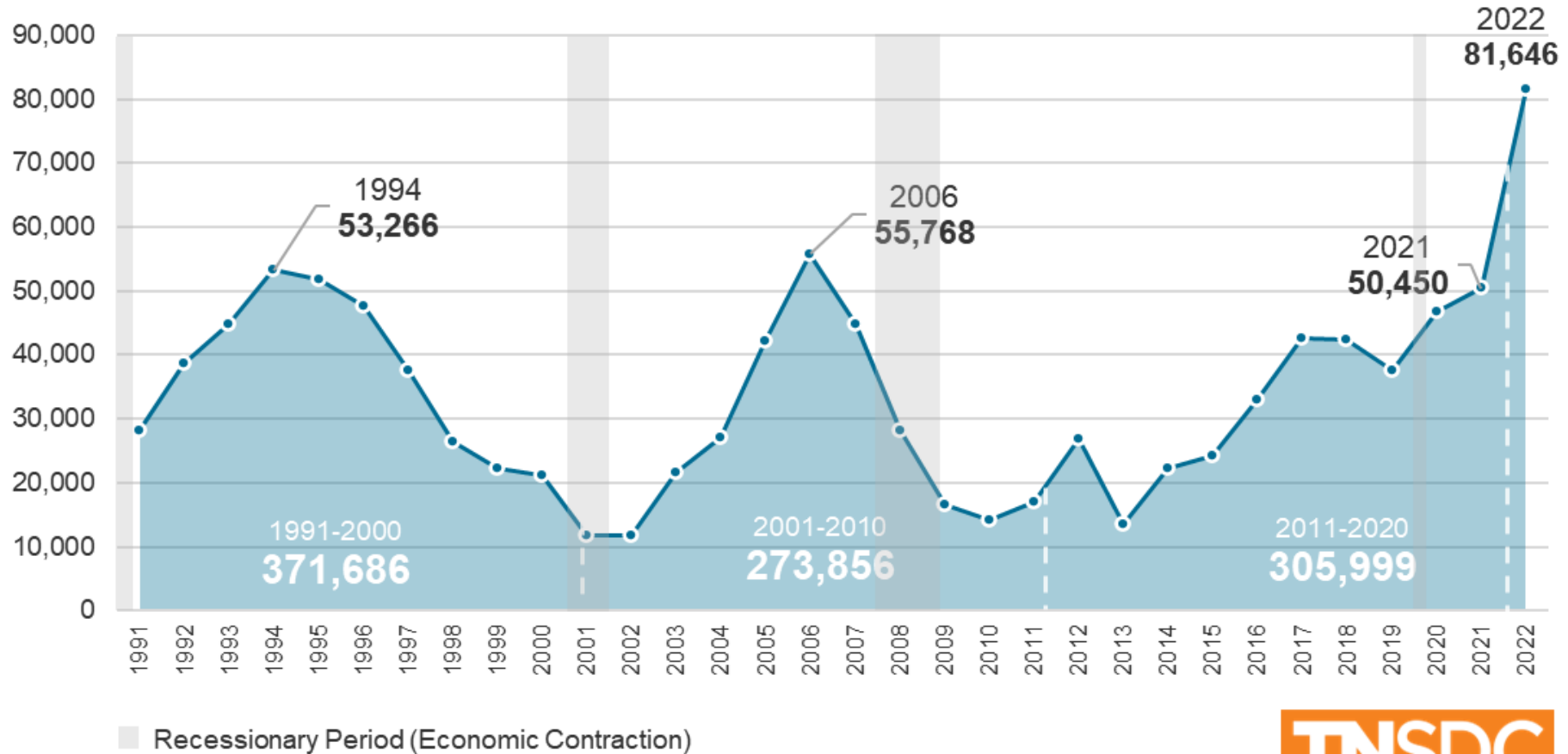
Natural Population Growth was Negative Last Year



Source: Tennessee Department of Health, Vital Statistics Bulletins



Net Migration Has Risen in Tennessee and is Essential to Finding Needed Workers



Source: U.S. Census Bureau, National Bureau of Economic Research

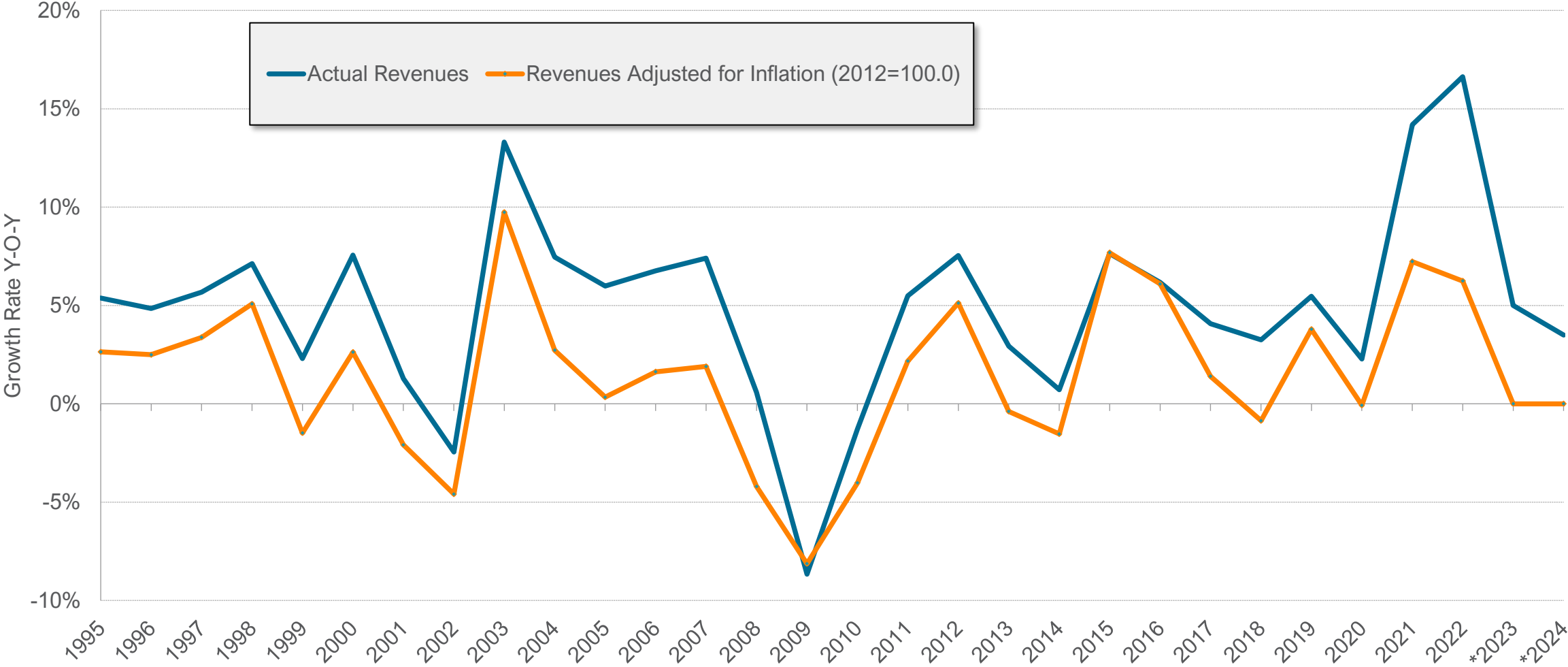


Tax Revenue Growth Rate Has Been Unprecedented without Rate Increases



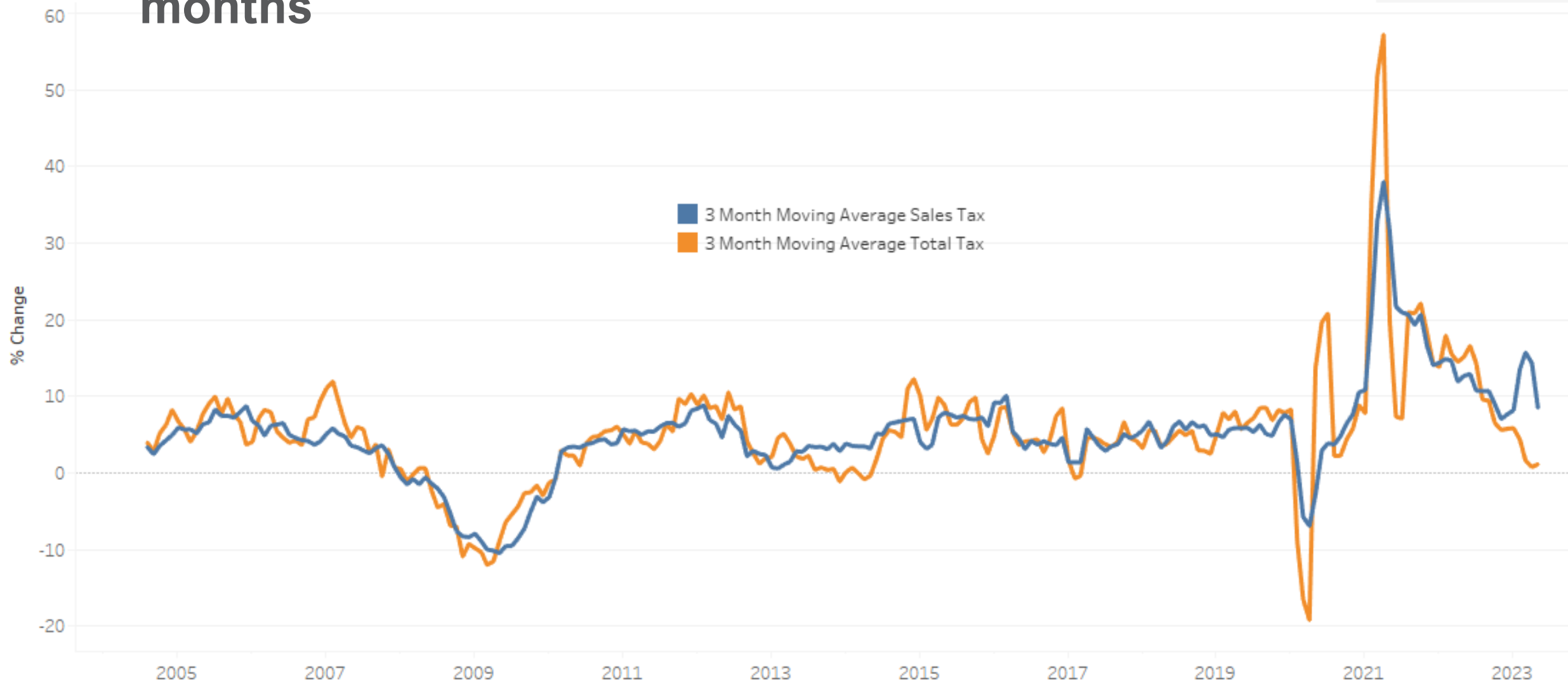
Source: TN Department of Revenue

Inflation Explains Some of the Revenue Growth



Source: Department of Revenue

Total Tax Revenue Growth has Slowed over the past 18 months



Some Technology Based Tax Disruptions

- AI
- Cryptocurrencies
- Social media and two-sided platforms
- Remote commerce –
 - e-commerce
 - Remote work
- Electric and autonomous vehicles
- The bottom line, the sales tax base is too narrow and needs to be modernized

AI and Consumers – and we are only on the front end of employing AI

- NCSL reports at least 25 states introduced and 14 passed AI legislation this year
- Language translation
- Virtual personal assistants – Siri, Alexa, Google Assistants
- Music and movie recommendations - Rotten Tomatoes
- Social media filters – enhanced photos or video
- Virtual gaming
- ChatGPT – this list came from ChatGPT
- Are these in your tax base?

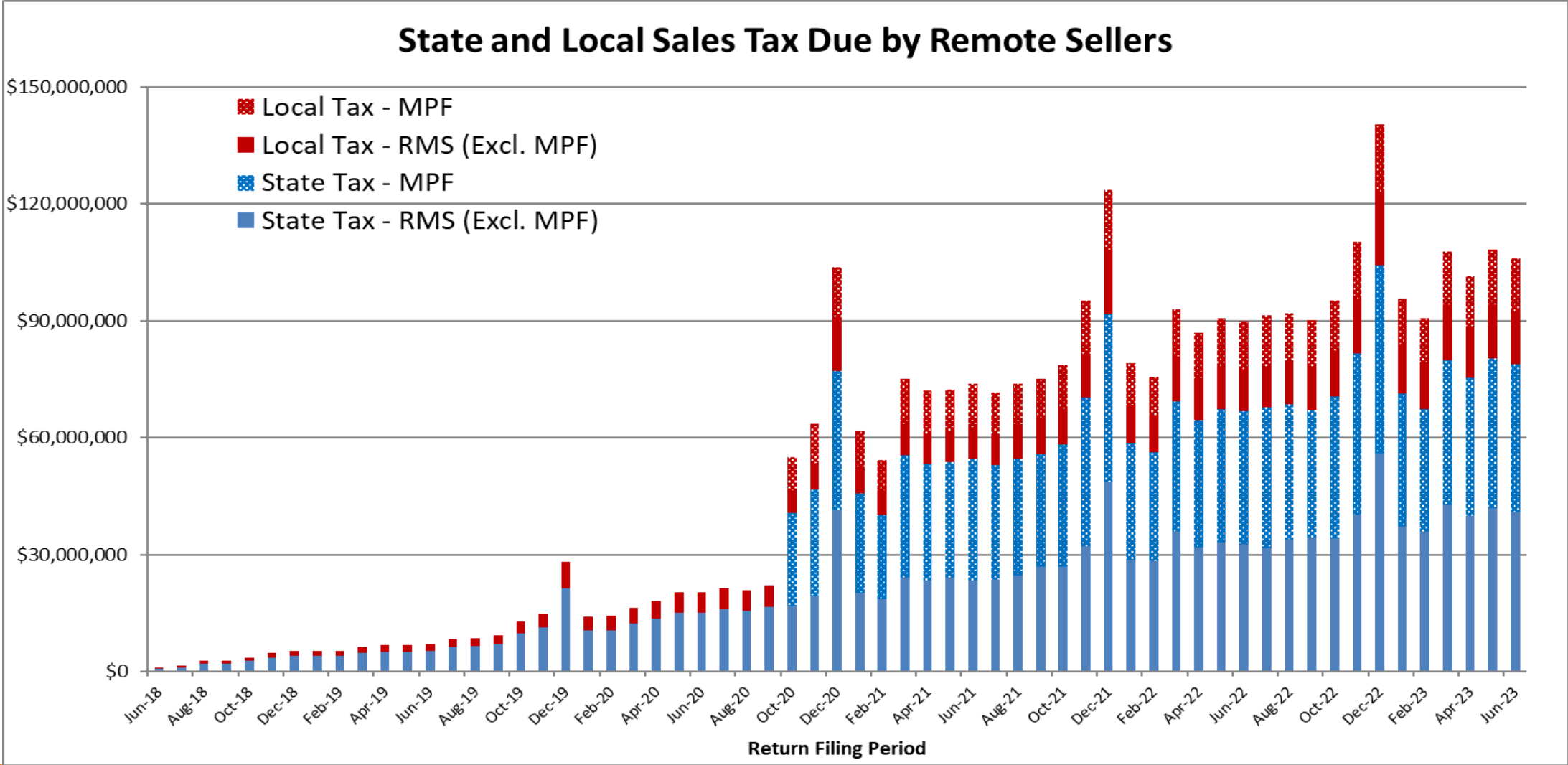
Cryptocurrencies, whose future is uncertain

- Key tax issue – currency or investments
- Sales tax the purchase if used as payment mechanism, though used to limited extent to-date
 - Crypto can be hard to track as a currency since difficult to see the owner, so evasion easier, much like cash
- Impose capital gains tax on the asset value if gains are realized.
 - Again, how to enforce since centralized information sharing limited?
 - Holdings concentrated in a small number, so equity concerns
- “Taxing Cryptocurrencies” Katherine Baer, et al. IMF Working Paper, July 5, 2023.

Social Media and Types of Platforms

- Transaction platforms where the provider links *buyers* and *sellers* – Uber, Airbnb, Amazon, ultimately providers of autonomous vehicles
- Two-sided platforms – where there are externalities between consumers and businesses (digital data purchasers, advertisers) on different sides of the platform, but they are not linked through the platform – Facebook, Instagram, TikTok, Spotify – two-sided platforms are not new, but they have grown rapidly

Tennessee Tax on New Remote Sellers has Risen Dramatically Since the Wayfair Case



How will remote sales tax be avoided/evaded in the future?

- Cross border shopping
- Firms below the states' collection thresholds
- Non-compliance - Firms not understanding how to comply – Avalara survey saying 58% of firms are confident that they are fully complying. We find that visible firms are much more likely to comply than less visible firms

